

THE MARK OF A MODERN BUILDING

PC
Glass Blocks
A MODULAR PRODUCT

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®

S. J. Kessler, Architect

PITTSBURGH CORNING CORPORATION, PITTSBURGH, PA.

PC Glass Blocks...the one building

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● PC Glass Blocks have won favor among architects mainly for one reason: They do so many things so well.

Panels of PC Glass Blocks add an attractive modern touch to the outer aspect of any building. They provide ample diffused daylight for interiors and can direct the light to areas where it is most needed. They possess excellent insulating properties. They insure privacy, prevent dust infiltration. PC Glass Blocks minimize maintenance, replacement and repairs.

All these features are good reasons why you should specify PC Glass Blocks for all types of industrial buildings, for commercial and public buildings, for schools, hospitals, and homes. And they harmonize with any architectural plan.

Listed below are eleven important advantages your clients get with PC Glass Blocks. They are amplified and illustrated in the following pages.

When you encounter unusual lighting problems, our technical staff will be glad to consult with you. Also, we have published booklets which contain complete, authoritative information on the use of PC Glass Blocks in mills, plants and factories, in commercial, public and institutional buildings, in dwellings of all types and sizes. We shall be glad to send you free copies upon request.

PC GLASS BLOCKS

1. Flood working areas with natural daylight
2. Aid temperature and humidity regulation.
3. Cut maintenance costs.
4. Reduce condensation on light-transmitting areas.
5. Clean easily and thoroughly.
6. Create a neat, modern appearance.
7. Permit greater privacy.
8. Provide effective sound insulation.
9. Increase usable floor area.
10. Possess insulating qualities which reduce heating costs.
11. Prevent infiltration of harmful dust and grit.



material that assures all these advantages

Better Lighting. PC Glass Blocks provide an abundance of diffused daylight. Proper selection of pattern prevents glare near light openings and transmits needed light to remote areas that would otherwise be waste space or require artificial lighting.

Better Insulation. PC Glass Blocks have more than twice the insulating value of ordinary windows. Each block contains a hollow, sealed-in air space that is an effective heat retardant. Panels of PC Glass Blocks consist of many small insulating units, which give them a very low coefficient of heat transfer. Thus they help maintain temperatures at desired levels, even during extremes of summer and winter weather.

Less Surface Condensation. The use of PC Glass Blocks often proves advantageous where surface condensation on windows is a problem. For moisture does not condense on the warm side of PC Glass Block panels except under severe temperature and humidity conditions. Less moisture taken from the air by condensation on glass areas means better control of humidity.

Less Infiltration of Dust and Grit. Harmful dust and grit cannot filter through panels of PC Glass Blocks. They also exclude dangerous or offensive gases, smoke and soot. Thus they prevent damage to all sorts of buildings and their contents, from fine draperies in the home to precision machinery and goods in process in mills and factories.

More Privacy. Translucent—not transparent—PC Glass Blocks admit plenty of diffused daylight, but still preserve privacy. Prying eyes cannot see through the patterned blocks. They cut off unpleasantly and distracting views. When outdoor vision is desired PC Vue Blocks can be included in the panel.

Disturbing noises are also dampened by PC Glass Blocks. Their hollow construction tends to confine inside noises and to exclude distracting sounds which originate outside.

More Usable Floor Space. Since PC Glass Blocks distribute ample light over wider areas, full use may be made of all floor space in all sorts of buildings. This is especially important in offices and factories where additional desks or machines may be installed in the same space.

The insulating properties of PC Glass Blocks also eliminate waste space near light openings. In cold weather, ordinary windows allow outdoor temperatures to affect room temperature. These cold spots—and also chilling drafts which interfere with the comfort of people and the operation of precision machinery—are elimi-

nated when panels of PC Glass Blocks are used in large light openings.

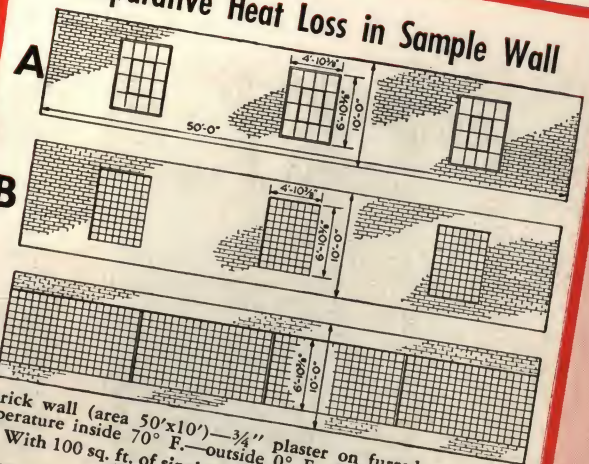
Better Air Conditioning. The three chief aims of air conditioning—temperature control, humidity control and air-cleaning—are all aided by the use of PC Glass Blocks. Their insulating properties assure less heat loss in winter, less heat gain in summer. Humidity levels are less likely to be upset by condensation. Solar heat transmission and radiation are reduced. Dust and grit cannot filter in, for each panel is a tightly sealed unit. All of which results in actual money savings and less wear and tear on heating and air-conditioning equipment.

Easier Cleaning. Large panels of PC Glass Blocks can be cleaned as single units. Since there are no small panes or muntins to interfere, the smooth, glass and cement surface can be covered in one sweep. Many maintenance men have found that one man, with a hose and a long-handled brush, can do a satisfactory cleaning job quickly and easily. And the translucent panels of PC Glass Blocks continue to look clean long after ordinary windows would look spotty or streaked with dirt.

Lower Maintenance Costs. When panels of PC Glass Blocks are used in outer wall light openings and in partitions, maintenance costs are minimized. There is no unsightly and dangerous window sash to rot and corrode, to need replacement or repainting. There are no fragile panes of glass to need frequent replacement. PC Glass Blocks make a permanent type of panel. Once installed, the blocks are not easily marred or broken. If replacement of a single block should become necessary, it can be done easily by any mason.

Easier Installation. Masons find PC Glass Blocks easy to lay. Their edge construction forms a "key-lock" mortar joint, providing a full bed of mortar, yet permitting a visible joint of only about $\frac{1}{4}$ inch, resulting in a trim panel that is pleasing to the eye. This "key-lock" joint is also easier to handle in laying.

Comparative Heat Loss in Sample Wall



8" brick wall (area 50'x10')— $\frac{3}{4}$ " plaster on furred metal lath.
Temperature inside 70° F.—outside 0° F. Wind at 15 m.p.h.

Configuration	Through brick	Through sash	Through glass blocks	Through total wall area
A With 100 sq. ft. of single-glazed steel sash in three openings—	8960 B.T.U. per hr.	7910 B.T.U. per hr.	16870 B.T.U. per hr.	16870 B.T.U. per hr.
B With 100 sq. ft. of 8" PC Glass Blocks in three panels—	8960 B.T.U. per hr.	3430 B.T.U. per hr.	12390 B.T.U. per hr.	12390 B.T.U. per hr.
C With 340 sq. ft. of 8" PC Glass Blocks—	8960 B.T.U. per hr.	11660 B.T.U. per hr.	15240 B.T.U. per hr.	15240 B.T.U. per hr.

Heat loss 90% of panel A, but with twice as much light.

PC Glass Blocks are made of two pieces of formed glass, fused together, enclosing a dead air space. They have the same insulating value as an 8-inch hollow tile wall, practically the same as an 8-inch hollow tile wall, more than twice that of ordinary windows.

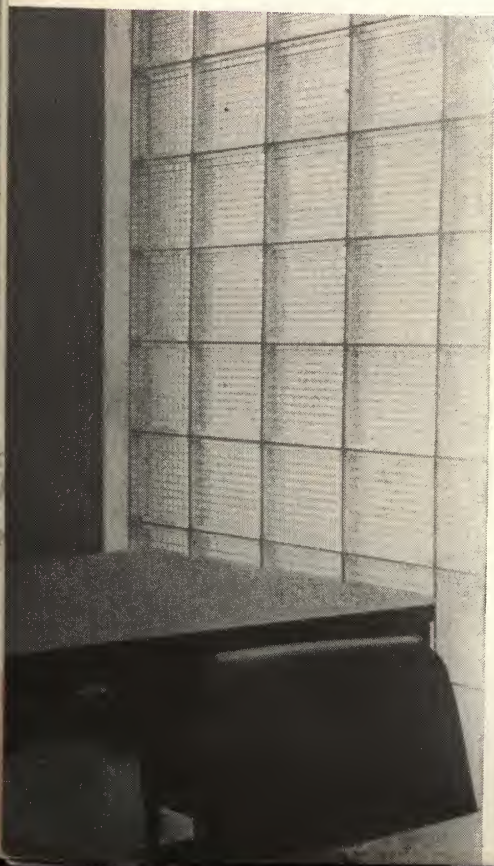
PLENTY OF NATURAL DAYLIGHT TRANSMITTED

THROUGH AN *Insulated Wall*



Because of their excellent insulating properties, PC Glass Blocks can be used in large light-transmitting areas with minimum disturbance of room temperature and humidity. They effectively retard heat transfer and solar heat transmission. Yet the larger openings provide more generous quantities of daylight, softly diffused by the patterns of the block faces. This more efficient use of natural light is an important economy, since it helps reduce the need for artificial lighting.

PC GLASS BLOCKS direct plenty of daylight over wider areas yet temperature and humidity levels are more easily controlled.



EXACTING DETAILED WORK is done more carefully when PC Glass Blocks exclude distracting sights and sounds.

PC Glass Blocks

FOR ATTRACTIVE STORES
AND OFFICE BUILDINGS

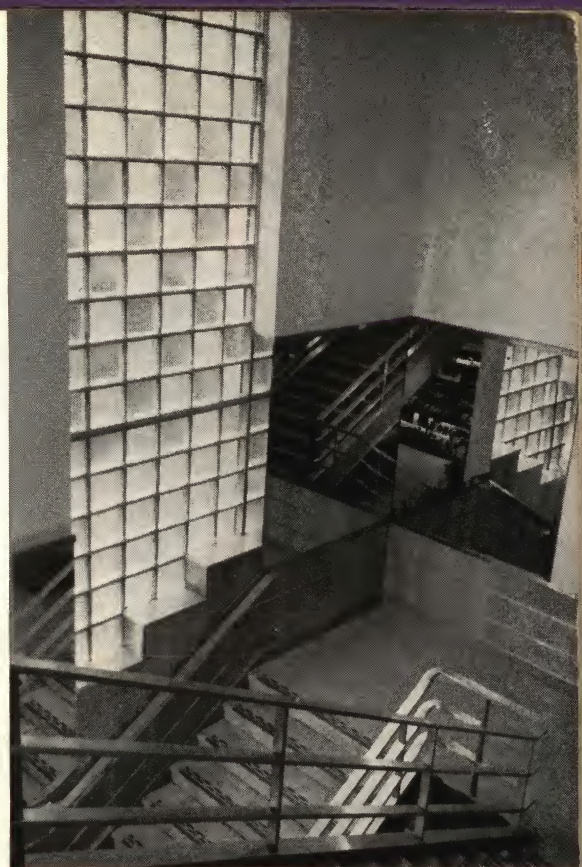


IN THIS DRAFTING ROOM, all PC Glass Blocks below eye level are specially designed to diffuse light, prevent glare. In the rest of the panel, Prism Light-Directing Blocks deliver reflected light far into the room.

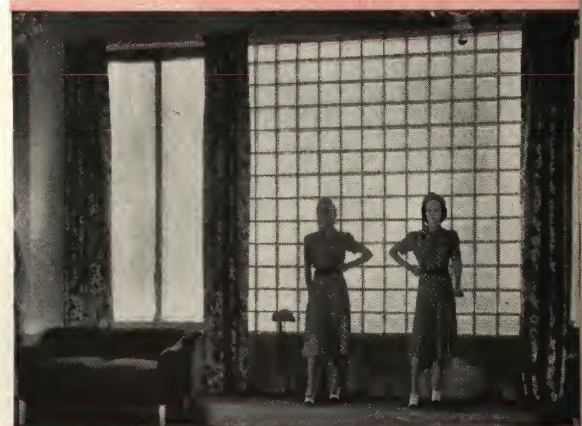


THIS MODERN BANKING ROOM is plentifully supplied with cheerful daylight by large panels of PC Glass Blocks, set high in the walls.

Sutton, Whitney and Aandahl, Architects



PLENTY OF LIGHT from the panel of PC Glass Blocks makes this stair landing safer—and conceals an unsightly view.



AMPLE DAYLIGHT from this large panel of PC Glass Blocks brings out the colorful beauty of the goods displayed, assures quiet comfort for customers.

Ely Jacques Kahn, Architect

PC Glass Blocks

**FOR DISTINCTIVE APARTMENTS,
HOTELS, RESTAURANTS, BARS**

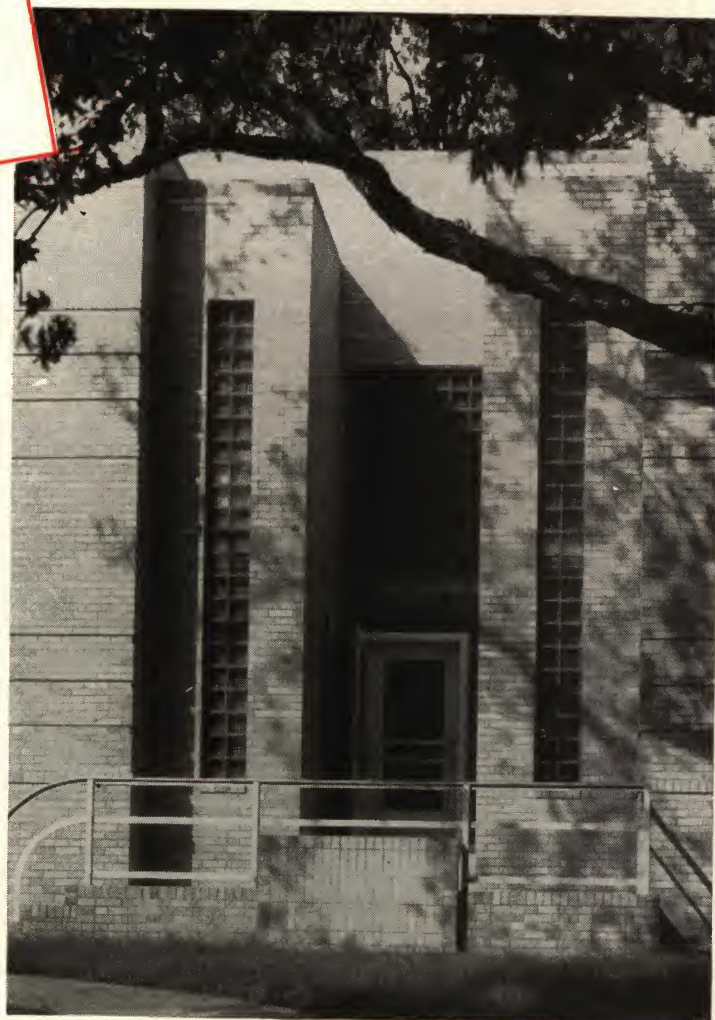
TALL PANELS of PC Glass Blocks strike a modern note in this attractive apartment house. They also admit plenty of light into the foyer, keep out dust, and are easily cleaned.

J. Bradley Rust, Architect



IN THIS ATTRACTIVE LOBBY, large panels of PC Glass Blocks provide plenty of cheerful daylight. Their beauty, easy cleaning and low maintenance cost make PC Glass Blocks the ideal building material for hotels.

Book and Paris, Architects



PC GLASS BLOCKS provide ample daylight to make your restaurant gayer, more cheerful—to make food look tastier. Also they enable your guests to dine in quiet and privacy.

George Dahl, Architect



COLORLED LIGHTS shed a convivial glow through PC Glass Blocks in this fashionable bar. And modern-looking places are the favorite gathering spots of modern, spending people.

Frank Smart, Architect

PC Glass Blocks

FOR
MODERN PUBLIC BUILDINGS



TRUE ARCHITECTURAL BEAUTY is achieved in this modern building by the combination of PC Glass Blocks and wrought metal over the entrance doors.

Eugene John Stern and Wittenberg and Delony, Architects

THIS UP-TO-DATE sewage treatment plant is beautiful as well as practical. The curved and flat panels of PC Glass Blocks harmonize perfectly with the trim modern façade of the building. Designed and constructed under the supervision of the Department of Public Works, City of New York.



OPERATING ROOMS need lots of diffused daylight. PC Glass Block panels supply it. They also guarantee quieter hospital rooms and better control of temperature and humidity.



IN POWER HOUSES, huge lighting areas are needed for large rooms. PC Glass Blocks transmit ample daylight into the expansive areas, yet prevent the excessive heat loss that ordinary windows would allow.

PC GLASS BLOCKS do double duty here. They present an attractive appearance and also flood the stairway and hall with daylight. Large panels of PC Glass Blocks are also extremely practical for school use in swimming pools, shower rooms, auditoriums and laboratories.

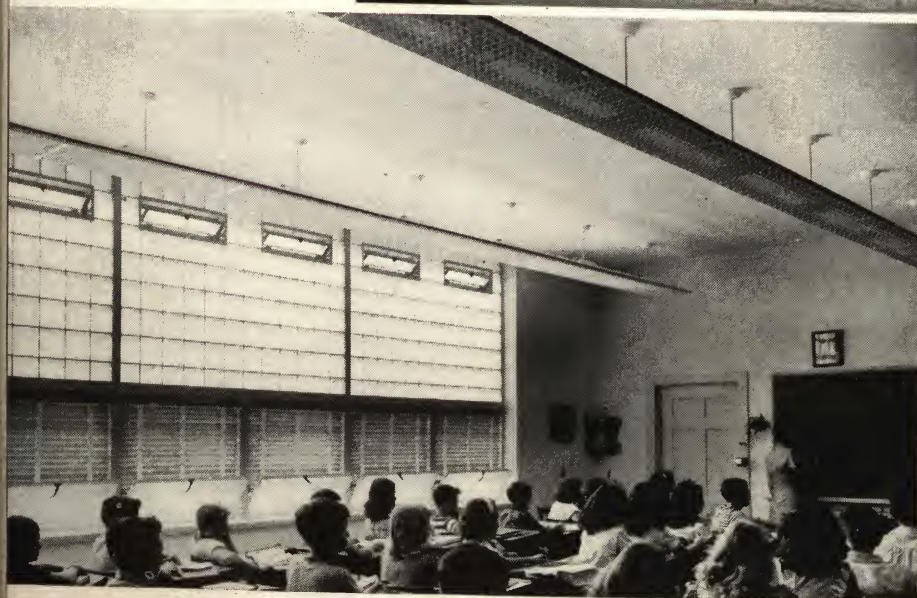
Louis H. Gerding, Architect

PC Glass Blocks

**FOR
WELL-LIGHTED SCHOOLS**

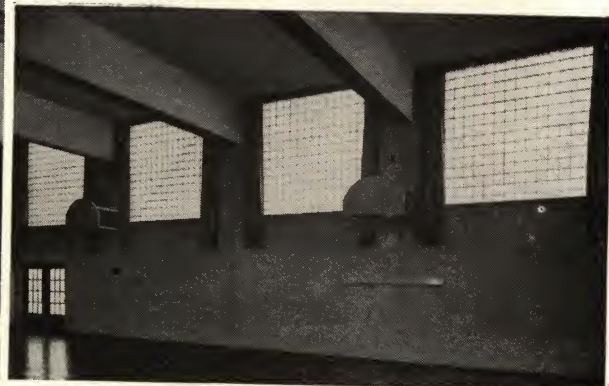
THE LIGHTING PROBLEMS in modern schools are solved successfully by large panels of PC Glass Blocks. In this imposing school, used in combination with standard sash, they also reduce fuel and maintenance costs.

Overend and Boucher, Architects



IN THIS CLASSROOM, prisms on the inside faces of PC Prism Light Directing Glass Blocks direct daylight upward to the ceiling where it is reflected to desks far from window openings. PC Glass Blocks are used here, effectively and attractively, in combination with standard sash.

Hadley & Atkinson, Architects



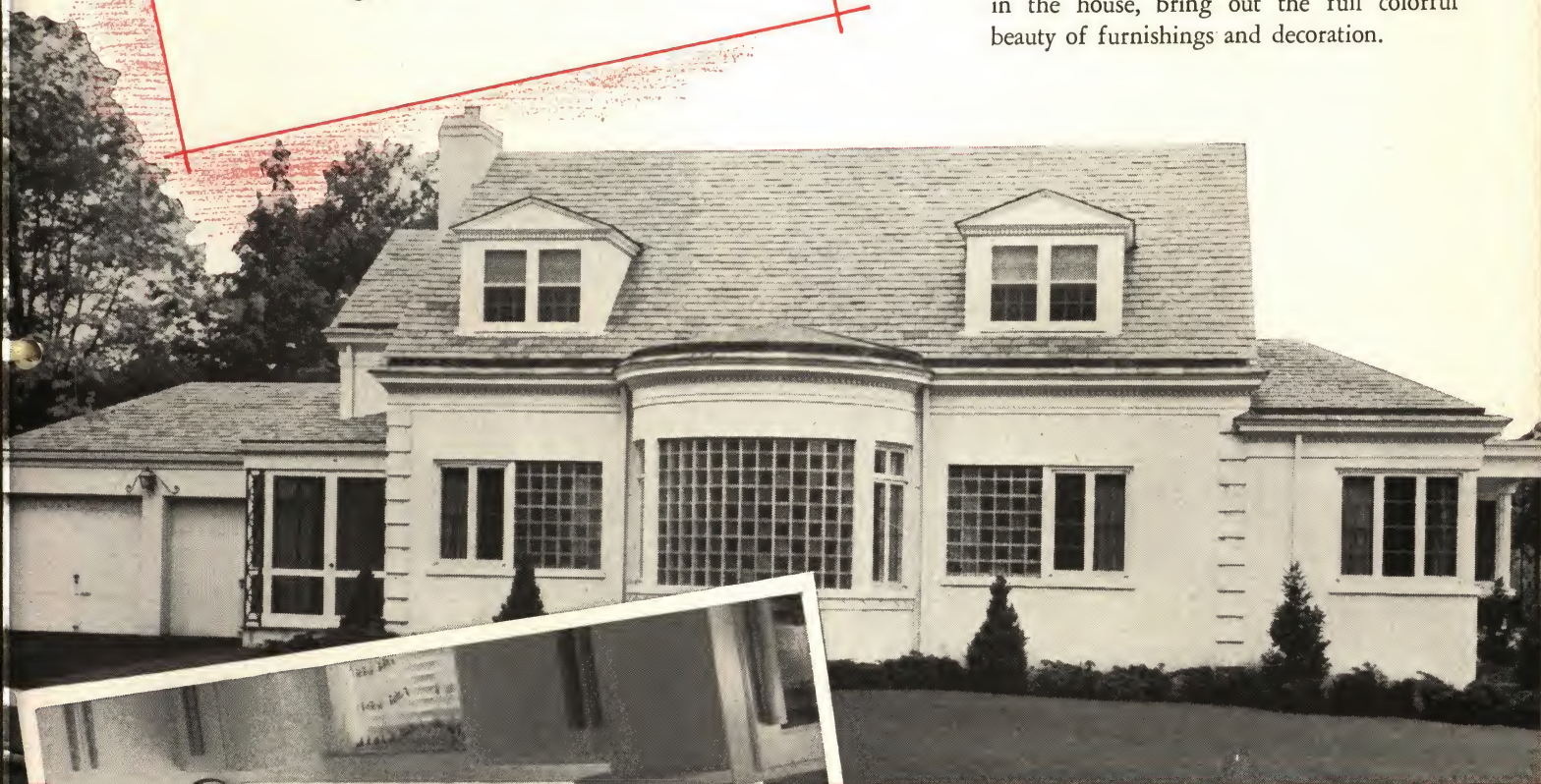
SCHOOL GYMNASIUMS can be adequately and safely lighted by PC Glass Blocks. The large panels also reduce heat losses, preserve privacy and minimize the danger of breakage.

Charles F. Smith, Architect

PC Glass Blocks

FOR CHARMING HOMES
OF ALL SIZES

IN NEW HOMES and in modernizing projects, panels of PC Glass Blocks add a note of distinction to the handsome outer aspect. They also contribute to the bright, cheery interior, arranged for convenience and comfort. In outer walls, and in partitions and screens, PC Glass Blocks dress up every room in the house, bring out the full colorful beauty of furnishings and decoration.



THE GRACEFUL BAY and matching panels of PC Glass Blocks are attractive features of this charming home. They provide a generous supply of light by day and glow with friendly welcome when lights are lit.

William J. Fitzsimmons, Architect

CHEERFUL DIFFUSED DAYLIGHT, supplied by PC Glass Blocks, makes this modern kitchen a pleasant place to work. The light can be concentrated on working surfaces, and also distributed throughout the entire room.

THE PARTITION AND BAR of PC Glass Blocks in this distinctive game room are practical as well as ornamental. Concealed colored lights shed a convivial glow. The blocks are easily kept clean, are strong and durable, do not break easily. In every home, from top to bottom, there are countless places where PC Glass Blocks can contribute more beauty, convenience and comfort.



PC Glass Blocks

IMPROVE OPERATING EFFICIENCY . . .

PC Glass Blocks have won wide use in industry, both for new construction and for sash replacement. Maintenance and operating men have found many places where their use has proved advantageous. Here are a few typical plants where the use of PC Glass Blocks resulted in more efficient operation and lower costs.

FOOD—Purity of the product, government inspection and public good will all demand that every part of the plant be spick-and-span. Not only are PC Glass Block panels easy to clean, but their appearance gives the plant a bright, clean look. Glass block panels do not permit infiltration of dust, spores, or other contaminating elements.

POWER PLANTS—By using glass blocks in power plants, plenty of daylight is provided—with less heat loss, and with complete privacy. And the sound insulation provided by glass blocks keeps power house noises from disturbing occupants of adjacent buildings.

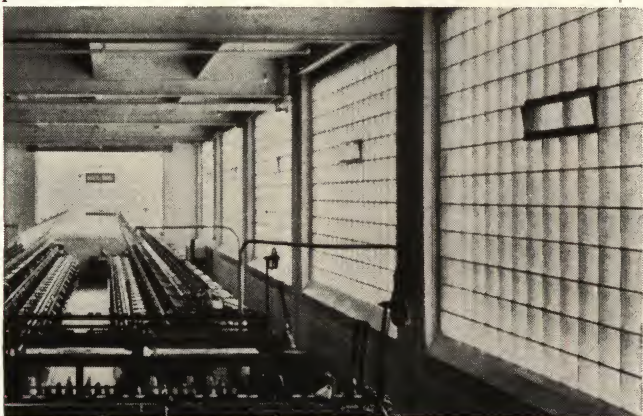
PAPER—Extremely high temperatures are necessary for paper drying, and consequent high humidities make paper mills drip with moisture. This moisture is acid and makes maintenance of ordinary sash both troublesome and costly. Light-transmitting areas should be insulated and sealed for maximum efficiency. So it can be readily seen why the use of glass blocks is such a "natural" here.

MACHINE SHOPS—Where precision is important, temperature variations can't be allowed. PC Glass Blocks permit use of precision machinery nearer outside walls than would be possible with the greater heat loss of ordinary windows.

OFFICES, CAFETERIAS and many other locations can profit from the cleanliness and privacy provided by PC Glass Block panels.

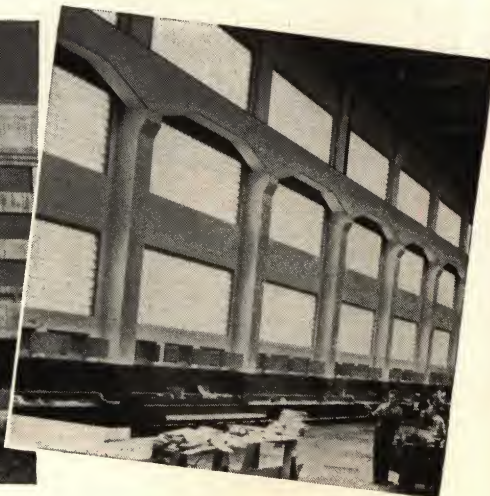


CHEMICAL—It pays here to avoid window structures that are highly susceptible to acid atmosphere. Wood and steel sash require frequent and costly maintenance—glass blocks are little affected by acid atmosphere and actually lower maintenance costs under such conditions. Because temperature control is important to uniformity of production—and because dirt infiltration must be at a minimum to assure purity of chemicals, glass blocks are widely used for chemical plants.



TEXTILE—The need for uniform temperature and humidity makes glass blocks ideal here. Hosiery mills, for example, operate finely-adjusted machinery, so they can't take chances with temperature changes. Throwing rooms require high humidity that readily destroys ordinary sash. And in dye houses, where high acid-content atmospheres prevail, glass blocks help cut maintenance costs.

INDUSTRIAL PLANTS—PC Glass Block construction is ideal for a wide variety of plants. There's complete privacy and good lighting for precision work. PC Glass Blocks can be installed by regular masons.

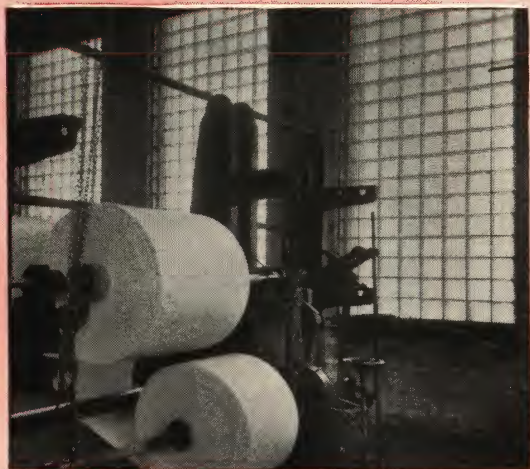


... CUT OPERATING COSTS *in factories*

Plenty of diffused daylight, distributed over wider areas by PC Glass Blocks, means more machines and work benches in the same floor space, better production—and more of it—from individual workers. That is how lighting panels of PC Glass Blocks improve conditions and reduce operating costs.



THIS PICTURE SHOWS how precision machines in a textile mill can be placed close to light openings of PC Glass Blocks. The insulating qualities of the blocks prevent temperature fluctuations that would interfere with machine operations.



IN THIS PAPER MILL, panels of PC Glass Blocks provide plenty of light and help maintain desired temperature levels. The blocks, being glass, withstand extreme humidity. There is no sash to check, rust or rot, no repainting or replacement.

PC GLASS BLOCKS

7c
3

... the ideal material for sash replacement

When worn window sash needs replacement, the problem can be solved permanently by installing PC Glass Blocks. Then there will be no further fear of rotting, rusting, frequent repairs and repainting. PC Glass Blocks also distribute daylight to all parts of large workrooms and cut down heat losses through large light openings.



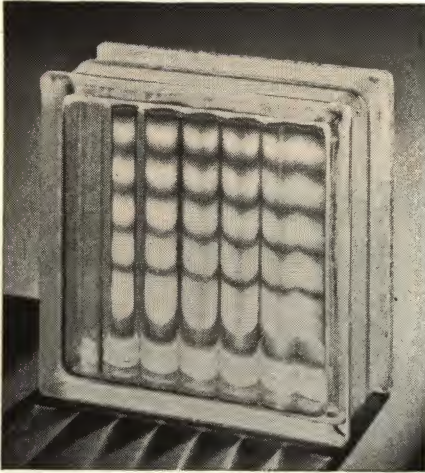
THIS BROOKLYN PLANT, formerly a silk mill, was converted to rayon production. For the rayon process, high humidity was required and temperatures had to be controlled within close limits—conditions which could not uniformly be maintained with single-glazed windows. PC Glass Blocks were chosen for sash replacement because they provide effective insulation for light-transmitting areas, thus help to maintain required conditions.

(Subject to change without notice)

PATTERNS	SIZES AND SHAPES AVAILABLE					
	5 3/4" Square	7 3/4" Square	11 3/4" Square	5 3/4" Corner	7 3/4" Corner	7 3/4" Radial
Argus	•	•	•	•	•	•
Argus Parallel Flutes	•	•	•			
Bristol		•			•	•
Decora	•	•	•	•	•	•
Druid		•			•	•
Essex		•			•	•
Prism Light-Directing		•				
Reeded-Decora	•	•	•	•	•	•
Saxon	•	•	•	•	•	•
Vue		•				•
Bristol LX-75		•			•	•
Druid LX-75		•			•	•

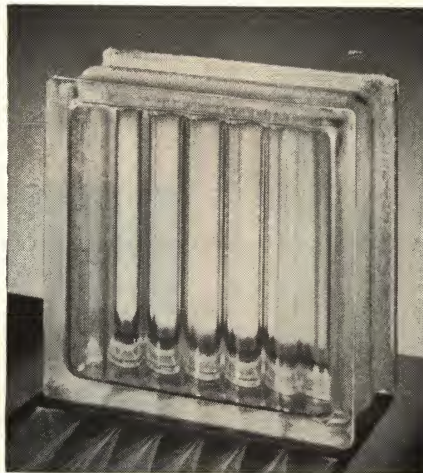
PC Glass Blocks AVAILABLE IN

For light transmission data for all blocks, see page 15



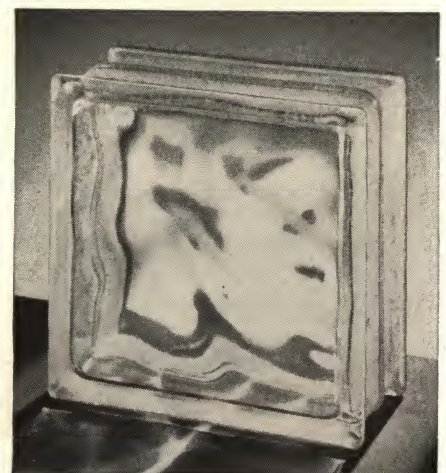
ARGUS

1. A conventional pattern designed for general use, both decorative and utilitarian.
2. High light transmission, good light diffusion.
3. Can be laid with flutes vertical or horizontal on room side with equally pleasing and efficient results. Caution: When used in combination with corner or radial blocks, if pattern match is desired, the standard blocks must be laid with flutes horizontal on room side.
4. Smooth outside faces permit maximum cleanliness.
5. Pattern description: Smooth outside faces, interior flutes identical, assembled at right angles.



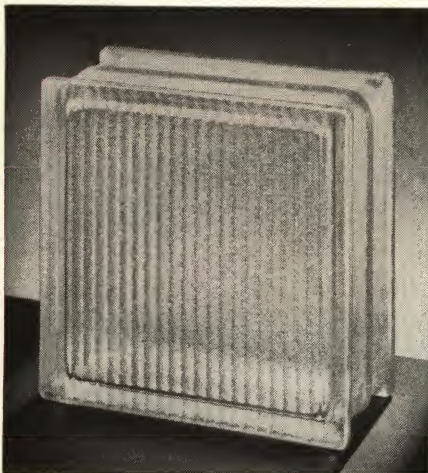
ARGUS PARALLEL FLUTES

1. A conventional pattern designed for general use, both decorative and utilitarian.
2. High light transmission, good light diffusion.
3. Can be laid with flutes vertical or horizontal with equally pleasing and efficient results. Caution: When used in combination with corner or radial blocks, pattern match can be obtained on only one side of panel.
4. Smooth outside faces permit maximum cleanliness.
5. Pattern description: Smooth outside faces, interior flutes identical, and parallel.



DECORA

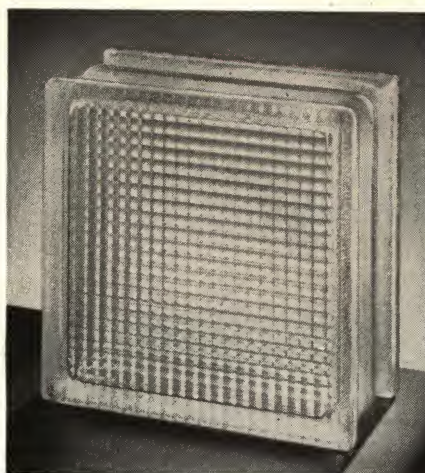
1. A decorative pattern ideally suited to harmonize with both modern and conventional design.
2. High light transmission with irregular diffusion and high translucency.
3. Asymmetric design permits laying without regard to pattern.
4. Smooth outside faces insure maximum cleanliness.
5. Pattern description: Smooth outside faces, asymmetric design on both interior faces.



BRISTOL

1. Designed to provide softer, more diffused light.
2. Should be laid with exterior flutes vertical.
3. Cleanability maintained by the smooth exterior flutes and lightly etched border.
4. Pattern description: Narrow vertical flutes and lightly etched border on both outside faces, and flat etched inside faces.

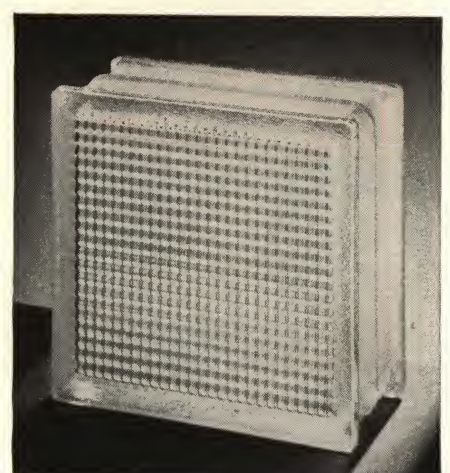
NOTE: This block is supplied in the 7 3/4" sizes only.



DRUID

1. Designed to provide high light transmission and closely match the Prism Light-Directing unit. For use on elevations without sun exposure when Prism Light-Directing units are used on adjacent sun exposure elevations.
2. Must be laid with exterior flutes vertical.
3. Cleanability is maintained by the smooth exterior flutes and lightly etched border.
4. Pattern description: Narrow vertical flutes and lightly etched border on both outside faces, horizontal flutes on both inside faces. Closely matches appearance of Prism Light-Directing unit.

NOTE: This block is supplied in the 7 3/4" sizes only.

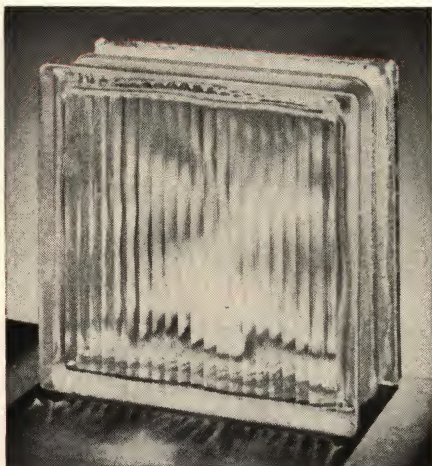


ESSEX

1. Specially designed for low light transmission. For use below eye-level in panels containing Prism Light-Directing Blocks and on elevations subjected to severe exposure to direct sunlight where Prism Light-Directing Blocks are not adaptable.
2. Must be laid with exterior flutes horizontal.
3. Pattern description: Horizontal spreading flutes and lightly etched borders on both exterior faces, vertical prisms on both interior faces.

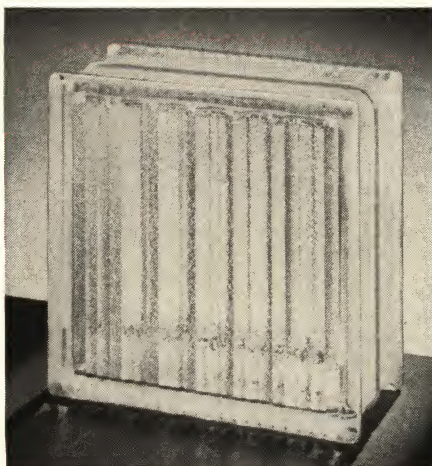
NOTE: This block is supplied in the 7 3/4" sizes only.

A WIDE SELECTION OF SIZES AND PATTERNS



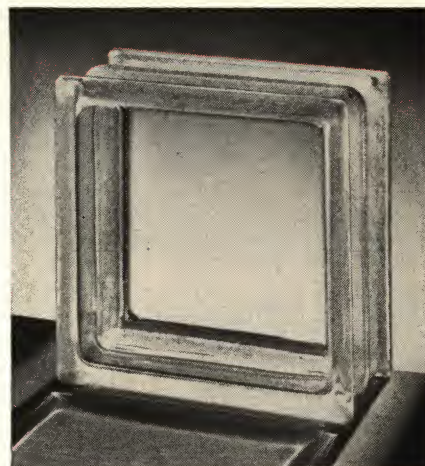
REEDED-DECORA

1. A modified Decora design to increase irregular pattern effects.
2. High light transmission with good diffusion and superior obscurity.
3. Should be laid with exterior reeds vertical.
4. Cleanability is maintained by the smoothly rounded exterior reeds.
5. Pattern description: Narrow parallel reeds on both exterior faces, asymmetric design on both interior faces.



SAXON

1. A pleasing uniform pattern designed for even light diffusion and brightness reduction, but with good light transmission.
2. Interior etched surfaces with exterior reeds produce maximum obscurity.
3. Should be laid with exterior reeds vertical.
4. Cleanability is maintained by the smoothly rounded exterior reeds.
5. Pattern description: Narrow parallel reeds on both exterior faces, parallel to wide flutes on both interior faces. Both interior faces are etched.



VUE

1. A pattern employing clear glass surfaces to permit sufficient general vision of large objects or movements beyond the panel to prevent the "shut-in" feeling. However, visibility of sharp details is not possible under most conditions.
2. High light transmission.
3. Cleanability is assured by smooth exterior surfaces.
4. Pattern description: Clear, smooth interior and exterior surfaces.

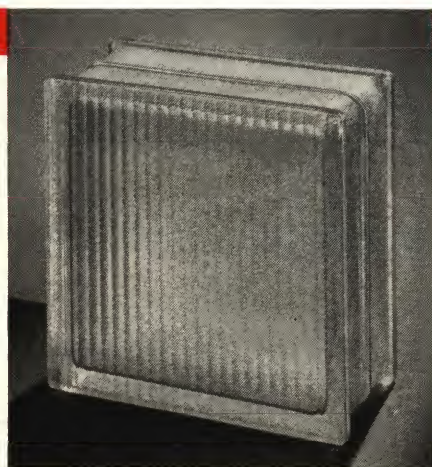
NOTE: This block supplied in the 7 3/4" sizes only.



PRISM LIGHT-DIRECTING

1. Specially designed to control the direction of sunlight transmitted by the block, and under proper conditions, to provide improved natural illumination.
2. By means of unlike prisms on the two inside faces, the greater part of the transmitted light is directed upward—away from the direct vision or glare zone—to the ceiling, where it may be reflected downward to provide indirect "daylighting."
3. Can be set in one position only—block is marked to indicate correct setting. Must not be used below eye level. For lower portion of panels below eye level use Essex Blocks.
4. Smooth vertical exterior flutes and lightly etched border insure easy cleaning.
5. Pattern description: Narrow vertical flutes and etched border on both outside faces, horizontal prisms on both inside faces.

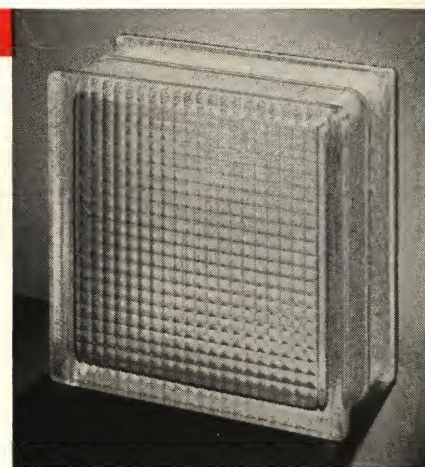
NOTE: This block supplied in 7 3/4" size only.



BRISTOL LX-75 (with a fibrous glass screen)

1. Specially designed for use on sun exposures to provide softer, more diffused light, with greatest reduction in brightness, and to reduce solar heat transmission.
2. A fibrous glass screen insert in combination with face pattern of block produces maximum light diffusion and obscurity, while sacrificing some light transmission.
3. Should be laid with exterior flutes vertical.
4. Cleanability is maintained by the smooth exterior flutes and lightly etched border.
5. Pattern description: Narrow vertical flutes and lightly etched border on both outside faces, flat etched inside faces, and a fibrous glass screen securely sealed within the block.

NOTE: This block is supplied in the 7 3/4" sizes only.



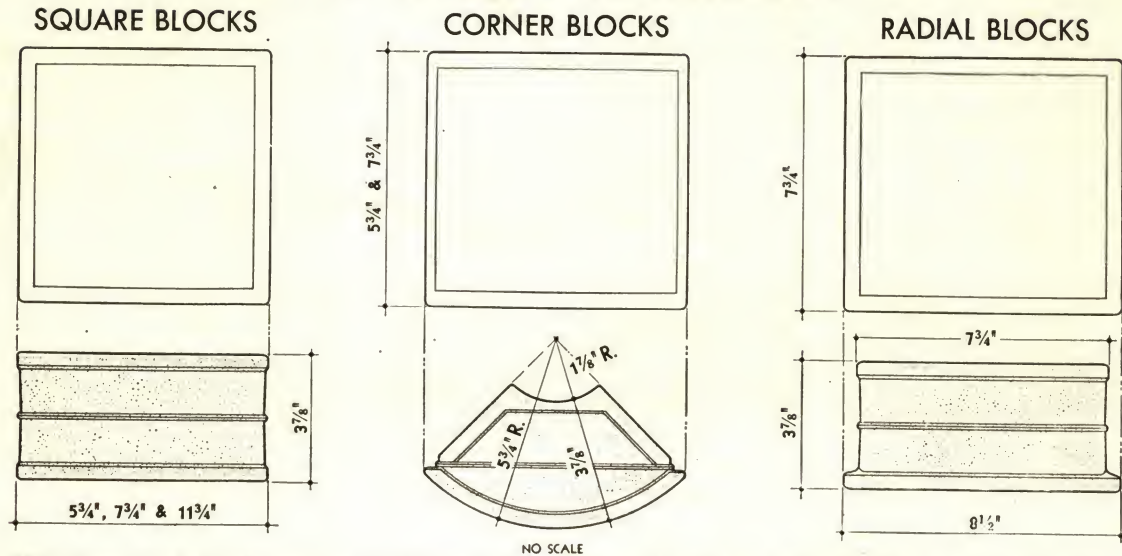
DRUID LX-75 (with a fibrous glass screen)

1. Specially designed to provide a light-diffusing, closely-matching unit for use below eye level in panels containing Prism Light-Directing Blocks, and at the same time to provide noticeable reduction in brightness and solar heat transmission.
2. A fibrous glass screen insert in combination with face pattern of block produces good light diffusion and obscurity, while sacrificing some light transmission.
3. Must be laid with exterior flutes vertical.
4. Cleanability is maintained by the smooth exterior flutes and lightly etched border.
5. Pattern description: Narrow vertical flutes and lightly etched border on both outside faces, horizontal flutes on both inside faces, and fibrous glass screen securely sealed within the block. Closely matches appearance of Prism Light-Directing Block.

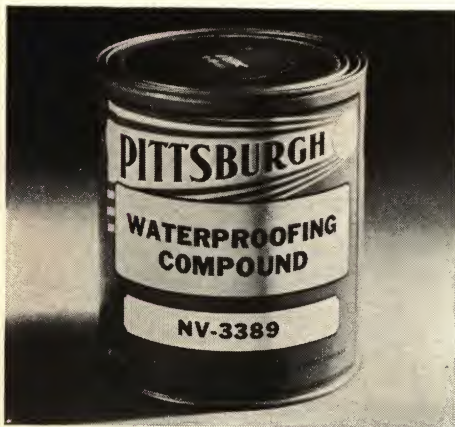
NOTE: This block is supplied in the 7 3/4" sizes only.

PC Glass Blocks — A MODULAR PRODUCT *

SIZES AND SHAPES AVAILABLE



*PC Glass Blocks have Standard Coordinated Dimensions, and meet the requirements of American Standards Association Project A62, and conform to the American Standard Basis for Coordination A62.1-1945



PITTSBURGH NV-3389 WATERPROOFING COMPOUND—To be added to the mortar to conform with PC specifications. Use one (1) quart per bag of cement.

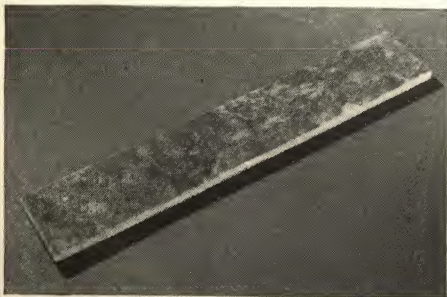
Available in one-quart, one-gallon, and five-gallon containers.



These PC accessory materials
can be obtained from all suppliers
of PC Glass Blocks



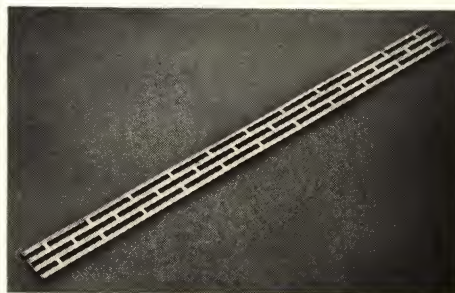
PC ASPHALT EMULSION—To be used on all sills to form a waterproof joint. Also used to adhere expansion strips to side and head jambs before installing glass blocks. See specifications for proper application. For sills and adhering of expansion strips, estimate one (1) gallon for approximately 150 lin. ft. Available in one-quart, one-gallon, and five-gallon containers.



PC EXPANSION STRIPS—To be used in expansion spaces at side and head-jambs installed in accordance with PC specifications.

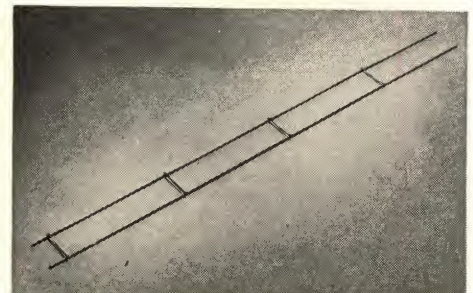
Available in the following sizes:
1 1/8" x 4 1/8" x 25" (For use in chase construction)
3/8" x 4 1/8" x 25"

For wall anchor construction, standard 4 1/8" wide strips can easily be cut to 3" width required.



PC WALL ANCHORS—To be used for supporting panels up to 100 sq. ft. in area where permitted by building code requirements. Spaced and installed in accordance with PC specifications. Wall Anchors are No. 20 gauge perforated steel galvanized after fabrication.

Available in 2'-0" lengths 1 3/4" wide.



PC WALL TIES—To be used in horizontal joints of glass block panels, spaced and installed in accordance with PC specifications. Wall Ties are formed of two No. 9 galvanized wires spaced 2" apart with No. 14 galvanized cross wires welded every 8". Available in 8' lengths.

THERMAL INSULATION

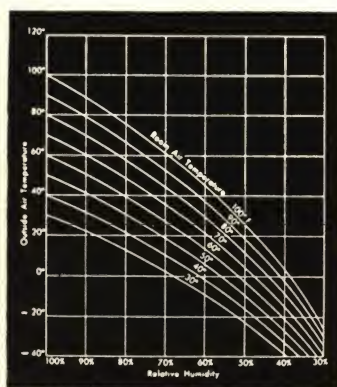
Tests run during the past several years have established values for the over-all heat transfer coefficient "U" as follows: under still air conditions: ribbed face block 0.38, smooth face 0.40; with 15 mile per hour wind; ribbed face block 0.46, smooth face 0.49. In computing heat losses through panels for design purposes, it is recommended that a "U" value of 0.49 be used for all block sizes and face patterns.

SURFACE CONDENSATION

Due to the high insulating value of PC Glass Blocks, condensation will not start forming on the room side of glass block panels until the outside air has reached a temperature much lower than that necessary to produce condensation on single-glazed windows. The accompanying chart shows at what temperatures condensation will form.

OUTDOOR TEMPERATURE REQUIRED TO PRODUCE CONDENSATION ON THE ROOM SIDE SURFACE OF PC GLASS BLOCK PANELS

(For example, the chart shows that with inside air at 70° F. and relative humidity at 40%, condensation will not begin to form on the interior surfaces of a glass block panel until an outdoor temperature of -14° is reached. Under similar conditions with single-glazed steel sash, moisture will begin to form when the outdoor temperature reaches +33° F.)



LIGHT TRANSMISSION

Light transmission, through the faces of individual glass blocks, has been measured by two somewhat different methods, in the absence of any generally accepted standard. Average values for each PC pattern are:

Pattern	% Transmission of Incident Light
Argus	80
Argus Parallel Flutes	80
Bristol	70
Decora	80
Reeded-Decora	80
Druid	80
Essex	50
Prism Light-Directing	65
Saxon	80
Vue	85
Bristol LX-75	55
Druid LX-75	60

Additional data on the performance of the Essex, Prism Light-Directing and LX-75 units are given on Pages 16 and 17.

SOUND INSULATION

Glass block panels have sound insulation properties equal to or better than other forms of masonry construction having equal weight per unit surface area, and are decidedly superior to single-glazed sash.

Tests give sound reduction factors for standard glass block panels of 37.6 to 42.0 decibels, a value closely approximating that for a 4-inch hollow clay tile wall plastered both sides.

CRUSHING STRENGTH

Repeated tests made on square wassettes laid up with PC Glass Blocks show a minimum panel compressive strength of 400 to 600 pounds per square inch of gross loaded area.

This crushing strength is well above that of many accepted masonry constructions, and is entirely adequate to resist safely the forces created by conditions within the glass block panels themselves.

However, glass block construction should never be used for loadbearing walls or panels. Adequate provision must be made for the support of construction above glass block panels, and expansion joints must be provided at head and jambs of all panels in exterior walls.

BOND STRENGTH

PC Glass Blocks have a special grit-bearing, moisture-and-alkaline-resisting, plastic coating on all mortar edges. This insures a complete and permanent bond between the glass and the cement mortar and provides a panel construction having a high degree of wind resistance and watertightness.

WIND RESISTANCE

From wind pressure tests on PC Glass Block Panels ranging in area from 50 sq. ft. (5'x10') to 256 sq. ft. (16'x16'), it has been found that any panel properly supported at its edges and within the area limits recommended will withstand a wind load of 20 pounds per sq. ft. with a safety factor of at least 2.7.

SOLAR HEAT GAIN

The use of glass blocks for light-transmitting areas results in a marked reduction in the total solar heat gain as compared with ordinary windows. This factor is of considerable advantage in buildings that are properly air conditioned, but does not eliminate the need for adequate ventilation or shading in non-air-conditioned rooms.

Based upon extensive tests of standard patterns, suggested figures for design computations are a maximum hourly rate of 41 B.T.U. and maximum daily rate of 250 B.T.U. total heat gain per square foot of glass block panel on South exposure, 40 degrees North Latitude for August 1.

More complete data on solar radiation appear in the current Guide of the American Society of Heating and Ventilating Engineers.

WEATHER RESISTANCE

Under all sorts of weather conditions, PC Glass Block construction has proved its durability. Tests of panels subjected to repeated cycles of heating, water spray and freezing show no sign of cracking or other structural deterioration, although temperatures well above and below those encountered in any exposure have been regularly used.

WATER-TIGHTNESS

Experience, both in the laboratory, where some 4,000 sq. ft. of panels 8'x10' in size have been tested, and also in the field where records of a number of jobs are available, conclusively indicates that properly constructed panels of PC Glass Blocks will be free from leakage. After long, driving rain storms, the most that has been observed is a slight darkening of the mortar joints.

ESTIMATING DATA

(For 100 sq. ft. of panel laid with 1/4-in. visible mortar joints)

Size of Block	6"	8"	12"
Number of Blocks	400	225	100
Weight of Panel	2000 lbs.	1800 lbs.	1900 lbs.
Volume of Mortar	4.3 c.f.	3.2 c.f.	2.2 c.f.

(For 1 cu. ft. of mortar, based on 1-1-4 mix by volume)

Cement	1/4 bag
Lime	1/4 bag
Sand	1 cu. ft.
Waterproofing Compound, Pittsburgh NV-3389	1/2 pint

PC GLASS BLOCKS...

FACTS ABOUT THE PRISM LIGHT-DIRECTING GLASS BLOCKS

It is often desirable to provide a means of carrying daylight as far as possible into a room and thus provide daylighting for workers who are located far from outside walls.

The PC Prism Light-Directing Glass Block was designed for this purpose. This Block controls the direction of light transmitted by the block. Because the transmitted light is bent upward, a more uniform distribution of interior illumination is possible when used with a reflecting ceiling. Objectionable brightness and glare are reduced when viewed from the horizontal or below. The result is a more even distribution of daylight, with a reduction in the intensity of direct daylight falling on working areas near outside walls. This control of transmitted light is accomplished by means of horizontal prisms on the two inside faces. Incident daylight is so refracted that the greater part of the transmitted light is directed toward the ceiling, with a minimum directed downward. The prism construction is all on the inside, and thus the light-directing surfaces are protected from damage or dirt. Light-Directing Blocks should be laid only above eye level (5'-6" to 6' above the floor), so that the light will be directed away from the eyes of room occupants. Correct control of light is possible only when blocks are set in proper position. Blocks are marked to indicate correct setting.

Light Transmission and Distribution

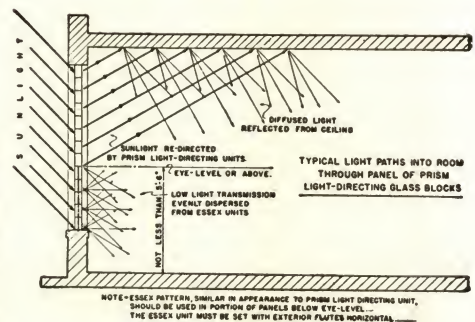
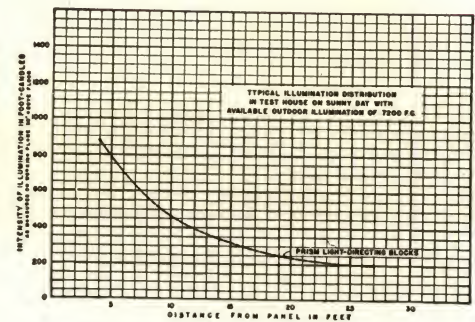
The PC Prism Light-Directing unit has an unusually high light-transmission factor for this type of glass—about 80% that of the Argus and other standard patterns. The diagrams at the right illustrate the performance of the prisms, and show a typical illumination curve. Note the high foot-candle readings well back in the room, and the low ratio between the maximum and minimum—always a desirable feature in lighting.

Solar Heat Transmission

Tests show that the total heat gain is approximately 85% that of the standard Argus Glass Block and about half that of single-glazed sash. The benefit to room occupants is even more pronounced, however, since they suffer no bodily discomfort as a result of the direct rays of the sun.

Use in Combination with the Essex Block

Where panels containing Prism Blocks would normally extend below eye-level, it is recommended that the complementary ESSEX Block be used in the lower portion of the panel. With this combination, advantage is taken of the most valuable qualities of each of these blocks to provide best lighting conditions. The Essex Block is similar in appearance to the Prism Unit. It must be installed with exterior flutes in a horizontal position.



FACTS ABOUT THE ESSEX GLASS BLOCK

The use of large glass areas for daylighting, while effective for cloudy days, frequently presents a problem of light distribution—especially in direct sunlight. Reduction of daylight intensity by the use of awnings or shades has frequently resulted in the impairment of the efficiency of the natural illumination. The diffusing qualities of standard glass block patterns have partially solved this problem, but their use in extensive areas presents the same problem as single glazing—though to a lesser degree.

The solution is the use of ESSEX pattern Glass Blocks. They transmit a relatively low amount of incident light, evenly dispersed, and provide best lighting conditions even when large glass areas are required for adequate illumination of large floor areas. Correct control of light is possible only when blocks are set with exterior flutes in a horizontal position.

Light Transmission and Distribution

Light transmission of the ESSEX Glass Block is of an evenly dispersed character and is approximately 60% of the Argus and other conventional patterns.

Solar Heat Transmission

Tests show that the total solar heat gain through glass block panels is made up of two factors—radiant heat directly transmitted into the room, and heat first absorbed by the panel itself and then partly re-radiated and partly conducted into the room. The interior vertical prisms and exterior spreading flutes of the ESSEX Block account for the very low figure for total heat gain—about 60% that of the Argus and some 35% that of single glazed sash. This reduction of solar heat will appreciably reduce cooling loads in

air-conditioned rooms, but will not eliminate the need for adequate ventilation in non-air-conditioned rooms on sun exposures.


Where to Use Essex Glass Blocks

Generally—wherever it is desirable to take advantage of the insulation of light-transmitting areas through the use of glass blocks, and at the same time obtain a relatively low amount of incident light, evenly dispersed to provide for best lighting conditions. The following may serve as a guide to the use of these blocks:

1. In large areas on unshaded East, South, and West exposures where low light transmission and reduced solar heat gain are desired, and conditions are not suitable for use of Prism Light-Directing Blocks.
2. Below eye-level, in combination with Prism Light-Directing Blocks on sun exposures.

PC LX-75 GLASS BLOCKS

(with a fibrous glass screen)



A SHEET OF FIBROUS GLASS is inserted and permanently sealed between the two halves of the block during its manufacture. This screen consists of a thin, pressed sheet, composed of glass fibers which effectively diffuse the light. It causes a reduction of brightness and solar heat transmission as compared with standard PC Glass Blocks or any other glazing.

... for better light diffusion
... less heat transmission

PC LX-75 Glass Blocks embody the well-known features of standard pattern PC Glass Blocks, plus important additional features

Each block contains a fibrous glass screen—inserted and permanently sealed between the two halves of the block—which breaks up and disperses too-bright daylight, resulting in a unit which transmits softly diffused daylight without uncomfortable brightness—even on the sunniest day. The screen also serves to divide the inside of the hollow block into two insulating dead air spaces, resulting in better thermal insulation value than in standard blocks. Solar heat gain, likewise, is reduced because of the screen.

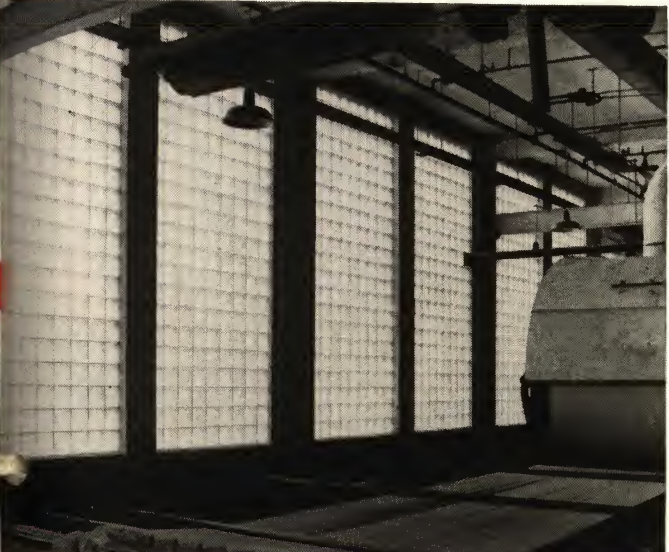
Plenty of light . . . plus insulation

On eastern, southern and western exposures, the rays of the sun, striking large light openings, can generate sufficient interior heat to interfere with plant operation and workers' comfort. With ordinary glazing, the use of awnings or shades is resorted to, but is not satisfactory because too much light is usually cut off, and these devices require frequent and costly attention. Under these conditions, panels of PC LX-75 Glass Blocks transmit plenty of daylight and at the same time keep out more solar heat than ordinary glazing. The insulating properties of the glass block, plus the additional insulating value resulting from the use of the fibrous glass screen, effect an appreciable reduction in the transmission of both radiant and conducted solar heat, thereby making more comfortable conditions inside. This will reduce cooling loads in air-conditioned rooms, but will not eliminate the need for ventilation in non-air-conditioned rooms on sun exposures.

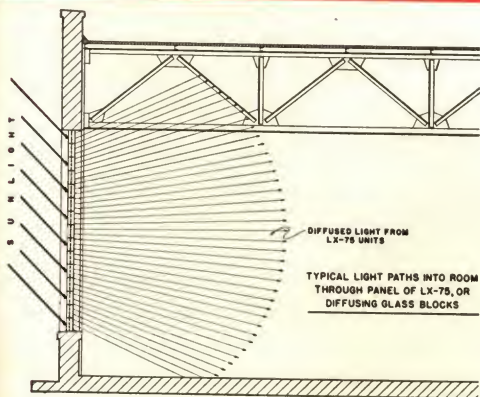
Pleasing in appearance . . . practical too

PC LX-75 Glass Blocks add a distinctive note to the exterior aspect of any building. Inside, too, the panels have a definite decorative effect. The light they provide, soft and easy on the eyes, makes offices and shops where they are used pleasant places to turn out good work.

Better lighting means less money spent for artificial lighting. Less heat transmission means less load on air-conditioning equipment in summer, lower heating costs in winter. Quickly and easily cleaned, rarely needing repairs or replacements, PC LX-75 Glass Blocks improve operating conditions and reduce operating costs.



SOFT, DIFFUSED DAYLIGHT in all parts of this mill enables workers to perform their tasks comfortably. Annoying brightness is eliminated and solar heat transmission is reduced.



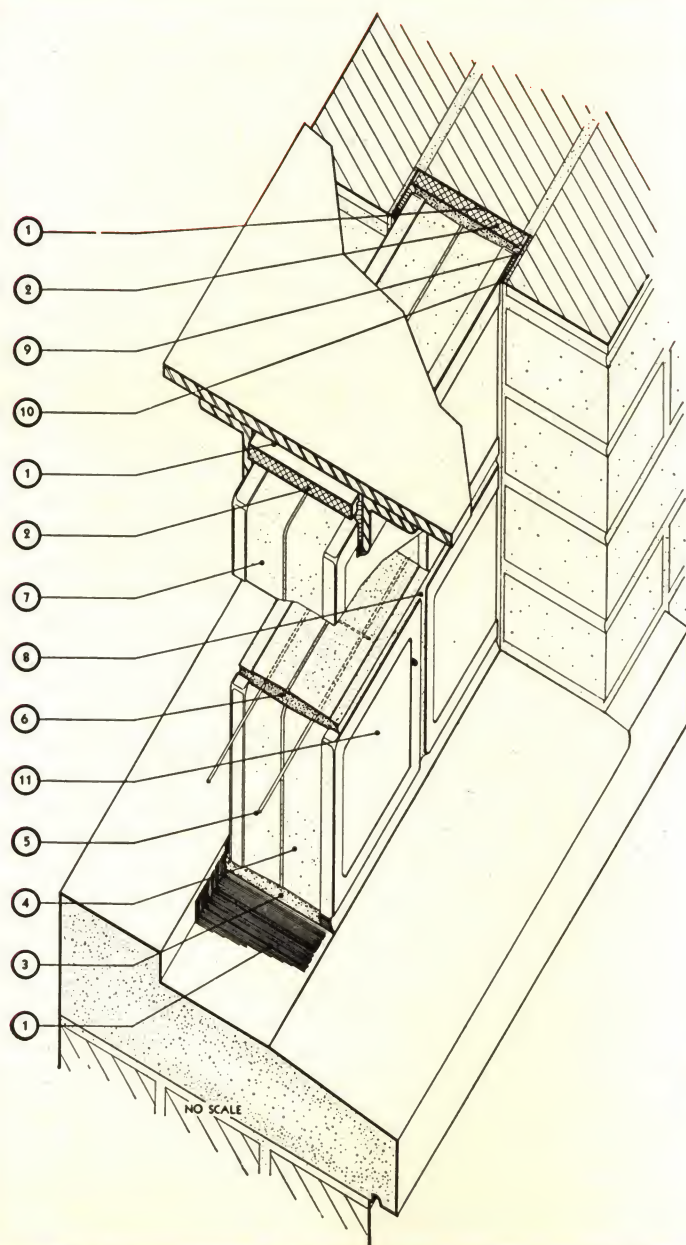
THIS DIAGRAM SHOWS typical light paths from a panel of PC LX-75 Glass Blocks. The diffusion of emergent light provides a uniform and desirable interior illumination, also a reduction in brightness that is essential on many exposures.

HOW TO

INSTALL PC GLASS BLOCKS



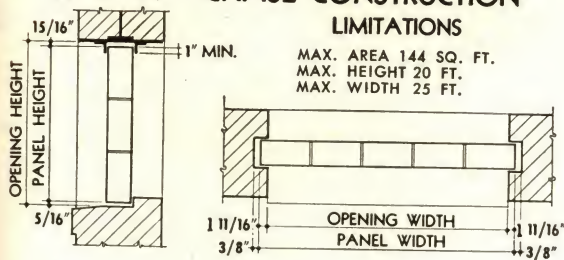
1. Mop entire perimeter of opening with heavy coat of asphalt emulsion.
2. Adhere PC Expansion Strip to jambs and head. Make certain expansion strip extends to sill.
3. Place full mortar bed at sill—do not furrow.
4. Set lower course of block. All vertical and horizontal mortar joints must be full and not furrowed. Steel tools must not be used to tap blocks into final position.
5. Install PC Wall Ties in horizontal joints where required as follows:
 - (a) Place lower half of mortar bed. Do not furrow.
 - (b) Place wall tie centered in joint.
 - (c) Cover wall tie with upper half of mortar bed and trowel smooth. Do not furrow.
 - (d) Wall ties must run from end to end of panels and where used continuously must lap 6 in. Wall ties must not bridge expansion joints.
6. Place full mortar bed for joints not requiring wall ties—do not furrow.
7. Follow instructions 3, 4 and 6 for setting succeeding courses of blocks.
8. Strike joints smoothly while mortar is still plastic and before final set. At this time rake out all joints requiring calking to a depth equal to the thickness of joint. Remove surplus mortar from faces of glass blocks and wipe dry.
9. After final mortar set, pack oakum (as specified) tightly into jamb and head construction.
10. Calk interior and exterior perimeter of panel with calking compound as specified.
11. Final cleaning of glass block faces shall not be done until after final mortar set.



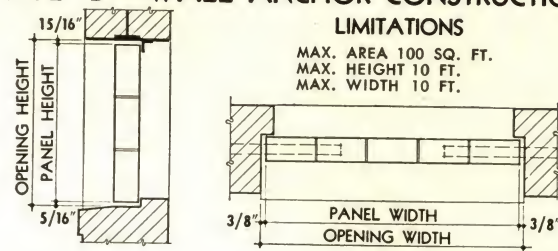
LAYOUT TABLES FOR PC GLASS BLOCK PANELS BASED ON MODULAR COORDINATION

(Using 3/8 In. Mortar Joints in Face Brick)

TYPE "A"—CHASE CONSTRUCTION



TYPE "B"—WALL ANCHOR CONSTRUCTION



5 3/4" SQUARE BLOCKS 1/4" MORTAR JOINTS

NO. OF UNITS	PANEL WIDTH OR HEIGHT	TYPE "A"		TYPE "B"	
		MASONRY OPENING WIDTH	MASONRY OPENING HEIGHT	MASONRY OPENING WIDTH	MASONRY OPENING HEIGHT
1	5 3/4"	2 3/8"	7"	6 1/2"	7"
2	11 3/4"	8 3/8"	1'-1"	1'-0 1/2"	1'-1"
3	1'-5 3/4"	1'-2 3/8"	1'-7"	1'-6 1/2"	1'-7"
4	1'-11 3/4"	1'-8 3/8"	2'-1"	2'-0 1/2"	2'-1"
5	2'-5 3/4"	2'-2 3/8"	2'-7"	2'-6 1/2"	2'-7"
6	2'-11 3/4"	2'-8 3/8"	3'-1"	3'-0 1/2"	3'-1"
7	3'-5 3/4"	3'-2 3/8"	3'-7"	3'-6 1/2"	3'-7"
8	3'-11 3/4"	3'-8 3/8"	4'-1"	4'-0 1/2"	4'-1"
9	4'-5 3/4"	4'-2 3/8"	4'-7"	4'-6 1/2"	4'-7"
10	4'-11 3/4"	4'-8 3/8"	5'-1"	5'-0 1/2"	5'-1"
11	5'-5 3/4"	5'-2 3/8"	5'-7"	5'-6 1/2"	5'-7"
12	5'-11 3/4"	5'-8 3/8"	6'-1"	6'-0 1/2"	6'-1"
13	6'-5 3/4"	6'-2 3/8"	6'-7"	6'-6 1/2"	6'-7"
14	6'-11 3/4"	6'-8 3/8"	7'-1"	7'-0 1/2"	7'-1"
15	7'-5 3/4"	7'-2 3/8"	7'-7"	7'-6 1/2"	7'-7"
16	7'-11 3/4"	7'-8 3/8"	8'-1"	8'-0 1/2"	8'-1"
17	8'-5 3/4"	8'-2 3/8"	8'-7"	8'-6 1/2"	8'-7"
18	8'-11 3/4"	8'-8 3/8"	9'-1"	9'-0 1/2"	9'-1"
19	9'-5 3/4"	9'-2 3/8"	9'-7"	9'-6 1/2"	9'-7"
20	9'-11 3/4"	9'-8 3/8"	10'-1"	10'-0 1/2"	10'-1"
21	10'-5 3/4"	10'-2 3/8"	10'-7"		
22	10'-11 3/4"	10'-8 3/8"	11'-1"		
23	11'-5 3/4"	11'-2 3/8"	11'-7"		
24	11'-11 3/4"	11'-8 3/8"	12'-1"		
25	12'-5 3/4"	12'-2 3/8"	12'-7"		
26	12'-11 3/4"	12'-8 3/8"	13'-1"		
27	13'-5 3/4"	13'-2 3/8"	13'-7"		
28	13'-11 3/4"	13'-8 3/8"	14'-1"		
29	14'-5 3/4"	14'-2 3/8"	14'-7"		
30	14'-11 3/4"	14'-8 3/8"	15'-1"		
31	15'-5 3/4"	15'-2 3/8"	15'-7"		
32	15'-11 3/4"	15'-8 3/8"	16'-1"		
33	16'-5 3/4"	16'-2 3/8"	16'-7"		
34	16'-11 3/4"	16'-8 3/8"	17'-1"		
35	17'-5 3/4"	17'-2 3/8"	17'-7"		
36	17'-11 3/4"	17'-8 3/8"	18'-1"		
37	18'-5 3/4"	18'-2 3/8"	18'-7"		
38	18'-11 3/4"	18'-8 3/8"	19'-1"		
39	19'-5 3/4"	19'-2 3/8"	19'-7"		
40	19'-11 3/4"	19'-8 3/8"	20'-1"		
41	20'-5 3/4"	20'-2 3/8"			
42	20'-11 3/4"	20'-8 3/8"			
43	21'-5 3/4"	21'-2 3/8"			
44	21'-11 3/4"	21'-8 3/8"			
45	22'-5 3/4"	22'-2 3/8"			
46	22'-11 3/4"	22'-8 3/8"			
47	23'-5 3/4"	23'-2 3/8"			
48	23'-11 3/4"	23'-8 3/8"			
49	24'-5 3/4"	24'-2 3/8"			
50	24'-11 3/4"	24'-8 3/8"			

7 3/4" SQUARE BLOCKS 1/4" MORTAR JOINTS

NO. OF UNITS	PANEL WIDTH OR HEIGHT	TYPE "A"		TYPE "B"	
		MASONRY OPENING WIDTH	MASONRY OPENING HEIGHT	MASONRY OPENING WIDTH	MASONRY OPENING HEIGHT
1	7 3/4"	4 3/8"	9"	8 1/2"	9"
2	1'-3 3/4"	1'-0 3/8"	1'-5"	1'-4 1/2"	1'-5"
3	1'-11 3/4"	1'-8 3/8"	2'-1"	2'-0 1/2"	2'-1"
4	2'-7 3/4"	2'-4 3/8"	2'-9"	2'-8 1/2"	2'-9"
5	3'-3 3/4"	3'-0 3/8"	3'-5"	3'-4 1/2"	3'-5"
6	3'-11 3/4"	3'-8 3/8"	4'-1"	4'-0 1/2"	4'-1"
7	4'-7 3/4"	4'-4 3/8"	4'-9"	4'-8 1/2"	4'-9"
8	5'-3 3/4"	5'-0 3/8"	5'-5"	5'-4 1/2"	5'-5"
9	5'-11 3/4"	5'-8 3/8"	6'-1"	6'-0 1/2"	6'-1"
10	6'-7 3/4"	6'-4 3/8"	6'-9"	6'-8 1/2"	6'-9"
11	7'-3 3/4"	7'-0 3/8"	7'-5"	7'-4 1/2"	7'-5"
12	7'-11 3/4"	7'-8 3/8"	8'-1"	8'-0 1/2"	8'-1"
13	8'-7 3/4"	8'-4 3/8"	8'-9"	8'-8 1/2"	8'-9"
14	9'-3 3/4"	9'-0 3/8"	9'-5"	9'-4 1/2"	9'-5"
15	9'-11 3/4"	9'-8 3/8"	10'-1"	10'-0 1/2"	10'-1"
16	10'-7 3/4"	10'-4 3/8"	10'-9"		
17	11'-3 3/4"	11'-0 3/8"	11'-5"		
18	11'-11 3/4"	11'-8 3/8"	12'-1"		
19	12'-7 3/4"	12'-4 3/8"	12'-9"		
20	13'-3 3/4"	13'-0 3/8"	13'-5"		
21	13'-11 3/4"	13'-8 3/8"	14'-1"		
22	14'-7 3/4"	14'-4 3/8"	14'-9"		
23	15'-3 3/4"	15'-0 3/8"	15'-5"		
24	15'-11 3/4"	15'-8 3/8"	16'-1"		
25	16'-7 3/4"	16'-4 3/8"	16'-9"		
26	17'-3 3/4"	17'-0 3/8"	17'-5"		
27	17'-11 3/4"	17'-8 3/8"	18'-1"		
28	18'-7 3/4"	18'-4 3/8"	18'-9"		
29	19'-3 3/4"	19'-0 3/8"	19'-5"		
30	19'-11 3/4"	19'-8 3/8"	20'-1"		
31	20'-7 3/4"	20'-4 3/8"			
32	21'-3 3/4"	21'-0 3/8"			
33	21'-11 3/4"	21'-8 3/8"			
34	22'-7 3/4"	22'-4 3/8"			
35	23'-3 3/4"	23'-0 3/8"			
36	23'-11 3/4"	23'-8 3/8"			
37	24'-7 3/4"	24'-4 3/8"			
38	25'-3 3/4"	25'-0 3/8"			

11 3/4" SQUARE BLOCKS 1/4" MORTAR JOINTS

NO. OF UNITS	PANEL WIDTH OR HEIGHT	TYPE "A"		TYPE "B"	
		MASONRY OPENING WIDTH	MASONRY OPENING HEIGHT	MASONRY OPENING WIDTH	MASONRY OPENING HEIGHT
1	11 3/4"	8 3/8"	1'-1"	1'-0 1/2"	1'-1"
2	1'-11 3/4"	1'-8 3/8"	2'-1"	2'-0 1/2"	2'-1"
3	2'-11 3/4"	2'-8 3/8"	3'-1"	3'-0 1/2"	3'-1"
4	3'-11 3/4"	3'-8 3/8"	4'-1"	4'-0 1/2"	4'-1"
5	4'-11 3/4"	4'-8 3/8"	5'-1"	5'-0 1/2"	5'-1"
6	5'-11 3/4"	5'-8 3/8"	6'-1"	6'-0 1/2"	6'-1"
7	6'-11 3/4"	6'-8 3/8"	7'-1"	7'-0 1/2"	7'-1"
8	7'-11 3/4"	7'-8 3/8"	8'-1"	8'-0 1/2"	8'-1"
9	8'-11 3/4"	8'-8 3/8"	9'-1"	9'-0 1/2"	9'-1"
10	9'-11 3/4"	9'-8 3/8"	10'-1"	10'-0 1/2"	10'-1"
11	10'-11 3/4"	10'-8 3/8"	11'-1"		
12	11'-11 3/4"	11'-8 3/8"	12'-1"		
13	12'-11 3/4"	12'-8 3/8"	13'-1"		
14	13'-11 3/4"	13'-8 3/8"	14'-1"		
15	14'-11 3/4"	14'-8 3/8"	15'-1"		
16	15'-11 3/4"	15'-8 3/8"	16'-1"		
17	16'-11 3/4"	16'-8 3/8"	17'-1"		
18	17'-11 3/4"	17'-8 3/8"	18'-1"		
19	18'-11 3/4"	18'-8 3/8"	19'-1"		
20	19'-11 3/4"	19'-8 3/8"	20'-1"		
21	20'-11 3/4"	20'-8 3/8"			
22	21'-11 3/4"	21'-8 3/8"			
23	22'-11 3/4"	22'-8 3/8"			
24	23'-11 3/4"	23'-8 3/8"			
25	24'-11 3/4"	24'-8 3/8"			

MODULAR COORDINATION

The American Standard Basis for the Coordination of Dimensions of Building Materials and Equipment A62.1-1945 established a standard grid based on a Module of 4". Most producers of masonry products, glass blocks, windows and other building materials have adopted Modular Coordinated Sizes. Modular Installation Details on the following pages show combinations of these materials incorporating basic principles for installing glass blocks. For additional details refer to the "A62 Guide for Modular Coordination" published by Modular Service Association, 110 Arlington Street, Boston 16, Massachusetts.

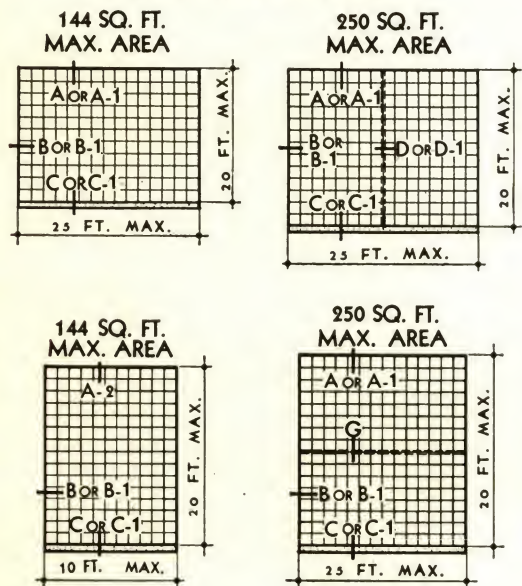
Exterior Panel Size Limitations with minimum expansion and anchorage requirements

GENERAL: Construction supporting panels over 144 square feet in area must be of a type which will provide for a minimum of movement and settlement.

Structural members shown are to indicate principles of construction. Sizes must be calculated for loads applied. Information shown on these sheets is not intended to conflict with any local building code requirements.

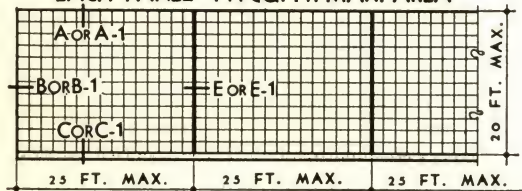
PC GLASS

LARGE SIMPLE PANELS

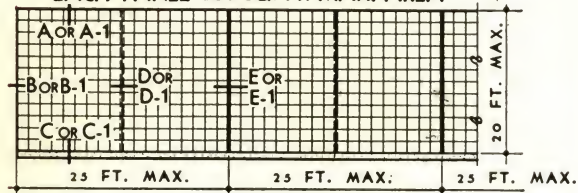


LARGE CONTINUOUS PANELS

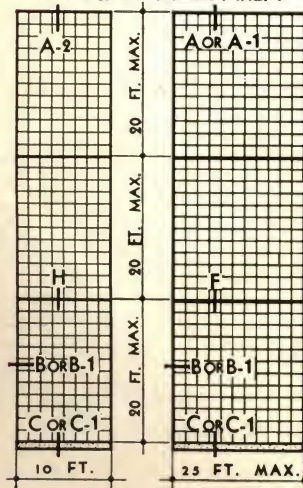
EACH PANEL 144 SQ. FT. MAX. AREA



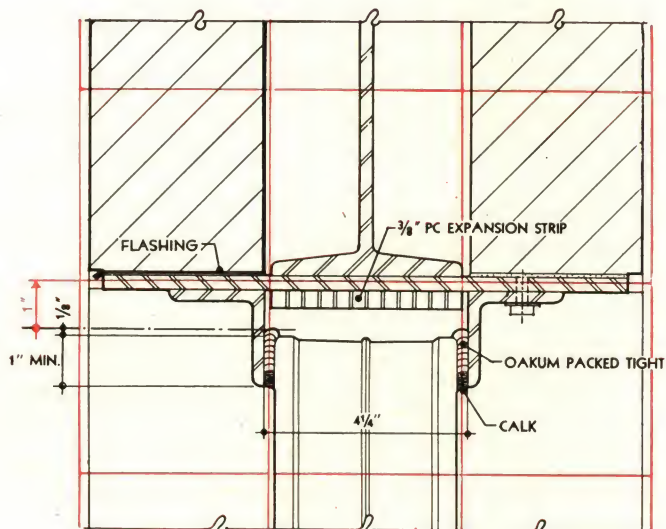
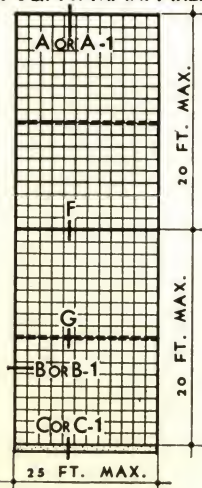
EACH PANEL 250 SQ. FT. MAX. AREA



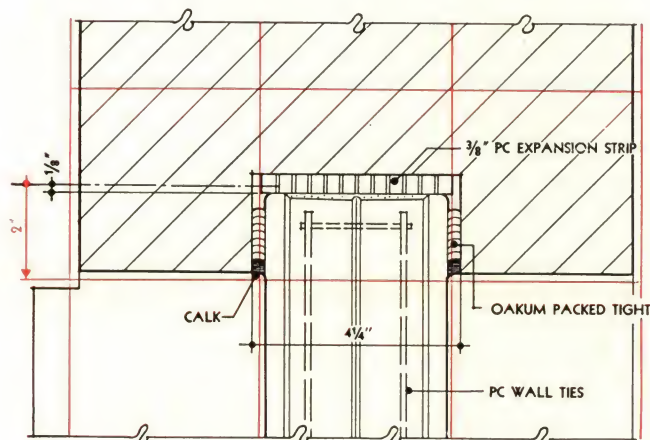
EACH PANEL 144 SQ. FT. MAX. AREA



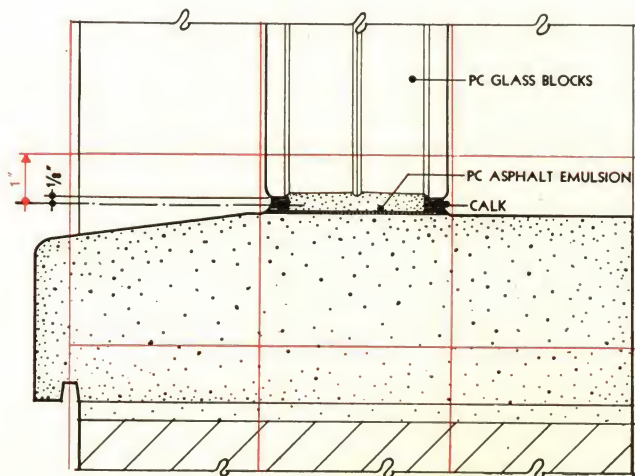
EACH PANEL 250 SQ. FT. MAX. AREA



SECTION "A"



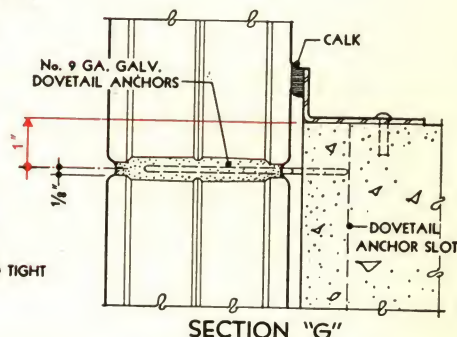
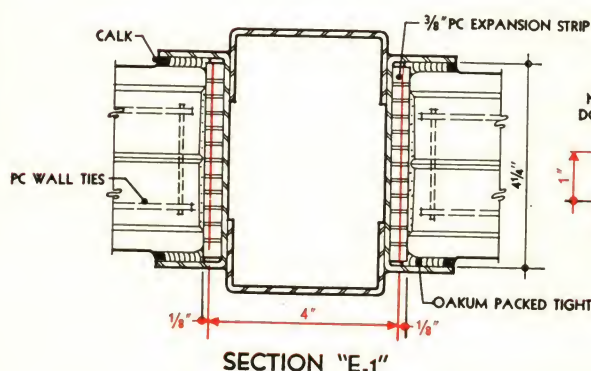
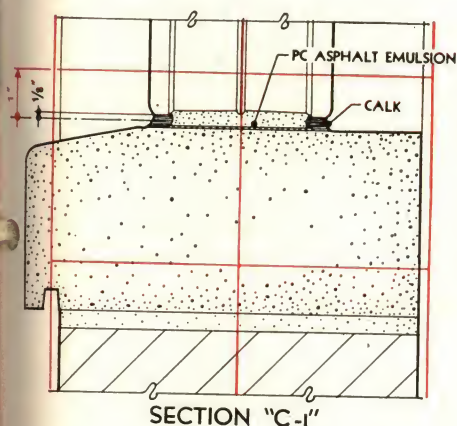
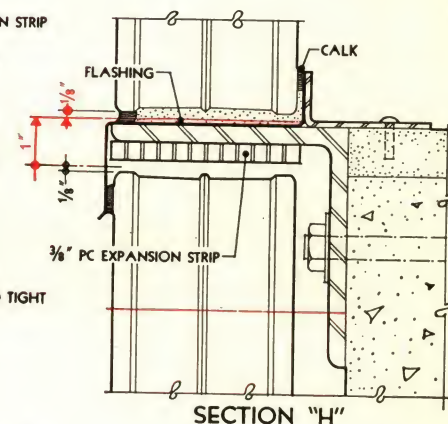
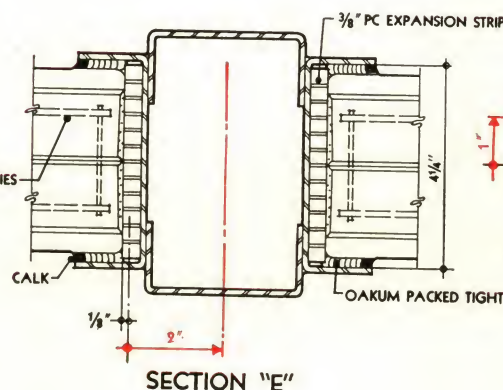
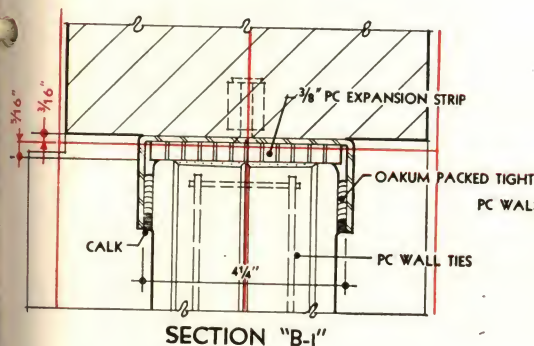
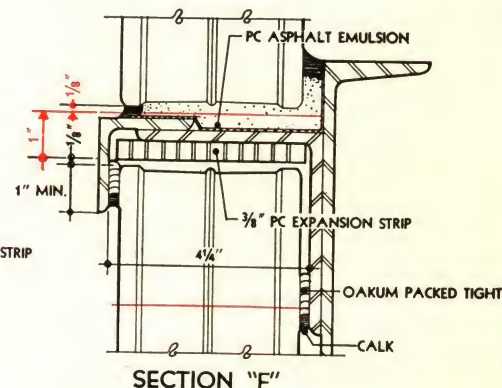
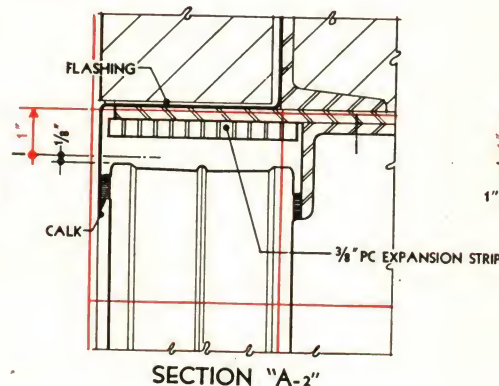
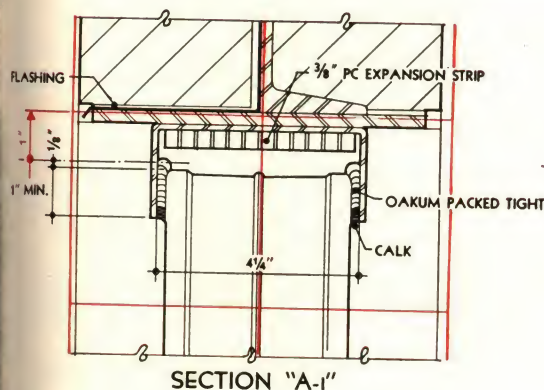
SECTION "B"



SECTION "C"

BLOCKS — MODULAR INSTALLATION DETAILS

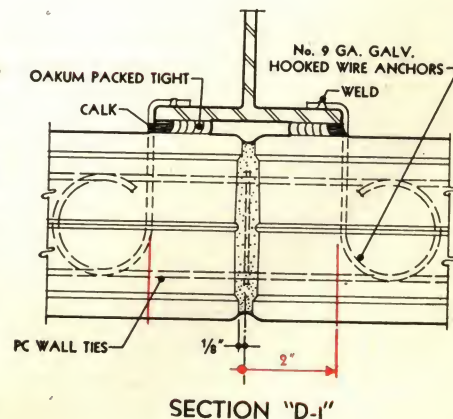
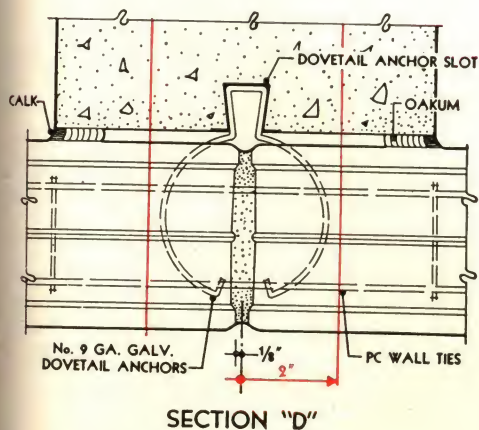
7c
3



GENERAL NOTES

All red lines shown are Grid Lines.
When Section "B-1" is used, vertical mortar joints of panel must be compressed slightly to obtain sufficient space at jambs for expansion strips.

GRID POSITION: Installation details for glass block panels establish the grid position of individual units vertically and horizontally. The vertical joints may be either on grid lines or centered between grid lines, depending upon the details used at the panel jambs. The centerlines of horizontal joints may either be on grid lines or some small dimension, normally 1", below or above grid lines. Glass block panels are normally positioned with the nominal faces on grid lines, so as to fit with chases or recesses in masonry openings. Other grid positions for the exposed faces may be used where required, examples of which are shown. Those details which do not indicate panel position with reference to grid lines, can be used for several conditions.

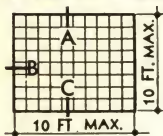


Wall anchors providing lateral support for glass block panels are restricted only by building code requirements and the discretion of the architect. Where wall anchors are forbidden, chase construction shall be used.

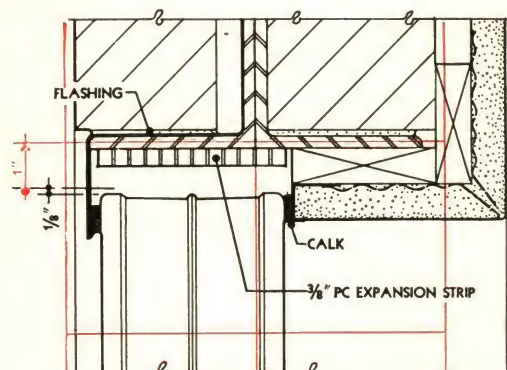
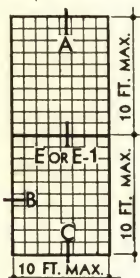
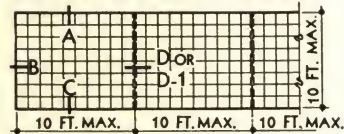
MODULAR INSTALLATION DETAILS— FOR SMALL EXTERIOR PANELS

SMALL EXTERIOR PANELS 100 SQ. FT. MAX. AREA

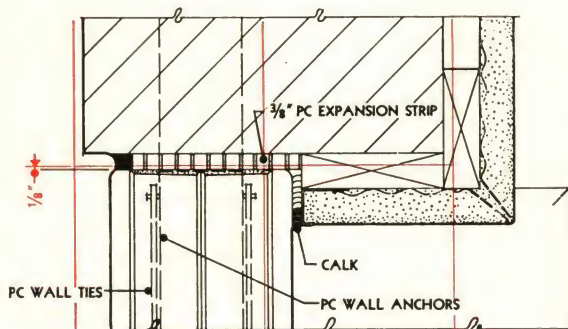
SIMPLE PANELS



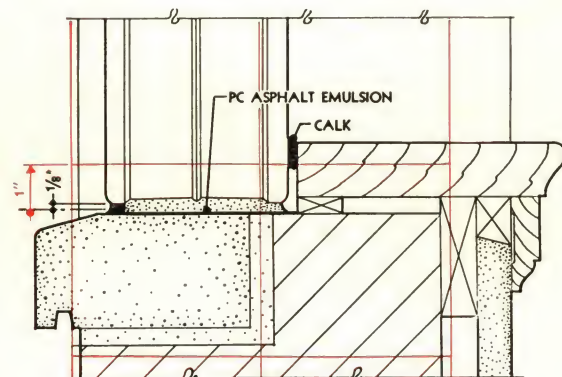
CONTINUOUS PANELS



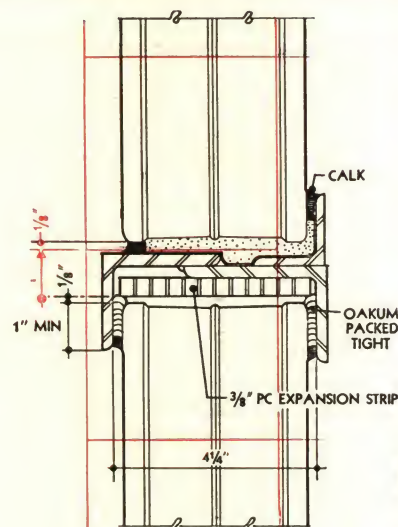
SECTION "A"



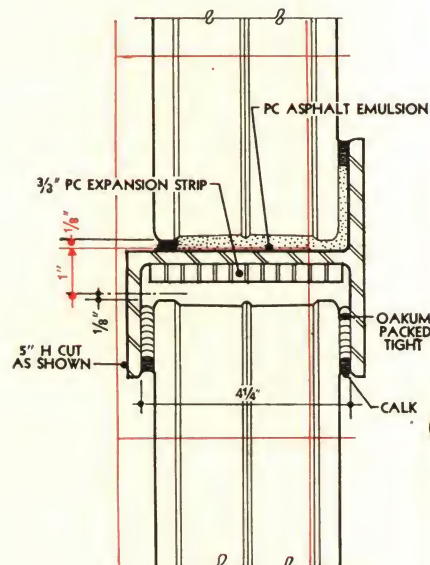
SECTION "B"



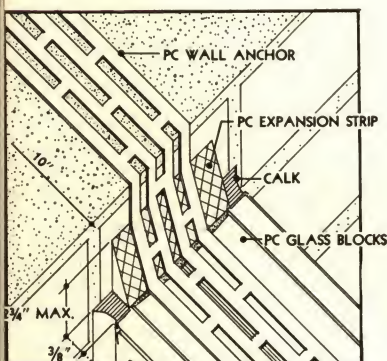
SECTION "C"



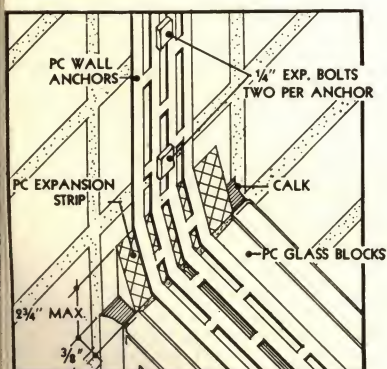
SECTION "E"



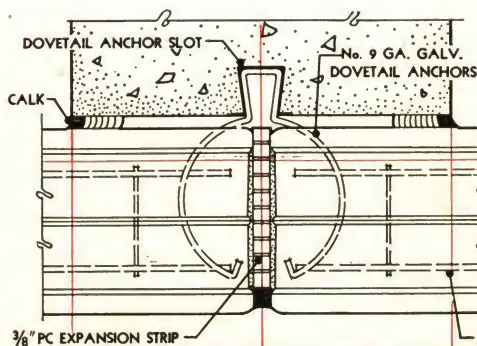
SECTION "E-1"



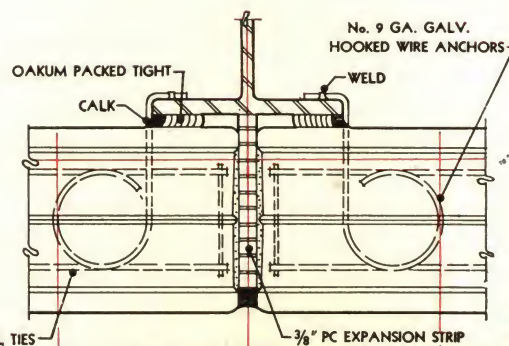
PC WALL ANCHORS
IN NEW CONSTRUCTION



PC WALL ANCHORS IN
EXISTING CONSTRUCTION



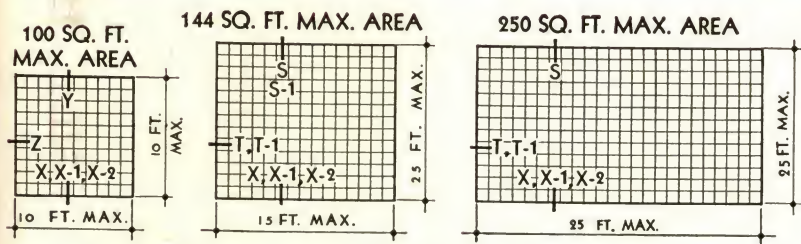
SECTION "D"



SECTION "D-1"

Where Sections "D" and "D-1" are used, vertical mortar joints of panels must be compressed slightly to obtain space for expansion strips.

MODULAR INSTALLATION DETAILS— FOR INTERIOR PANELS

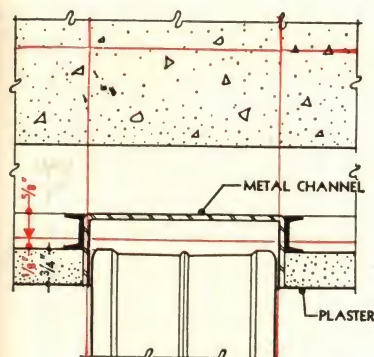


INTERIOR PANEL SIZE LIMITATIONS WITH
MINIMUM EXPANSION & ANCHORAGE REQUIREMENTS

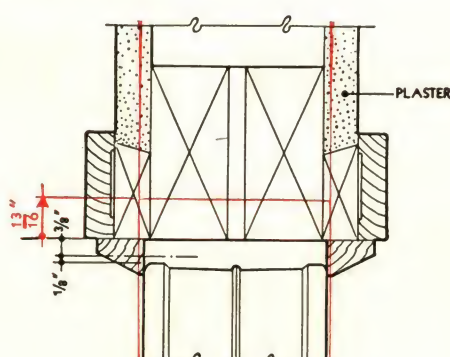
Construction supporting panels over 144 square feet in area must be of a type which will provide for a minimum of movement and settlement.

Information shown on this sheet is not intended to conflict with any local building code requirements.

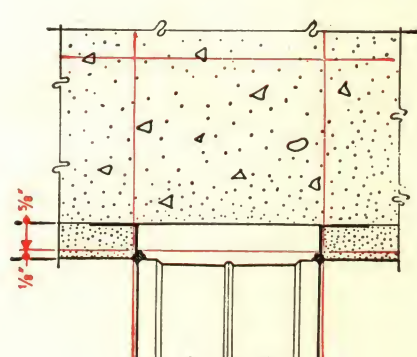
Before glass blocks are installed in wood partitions, all wood adjacent to mortar shall be properly primed.



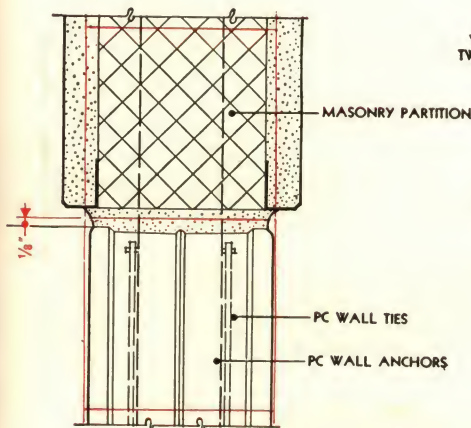
SECTION "S"



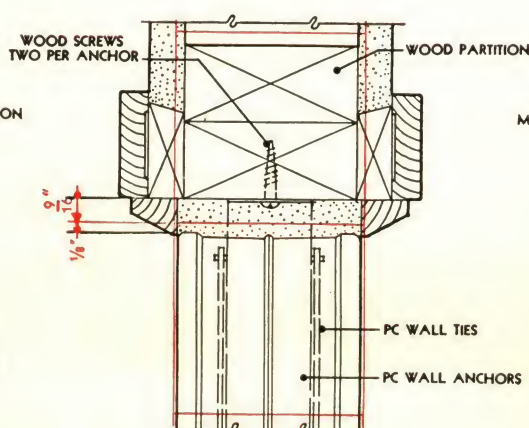
SECTION "S-1"



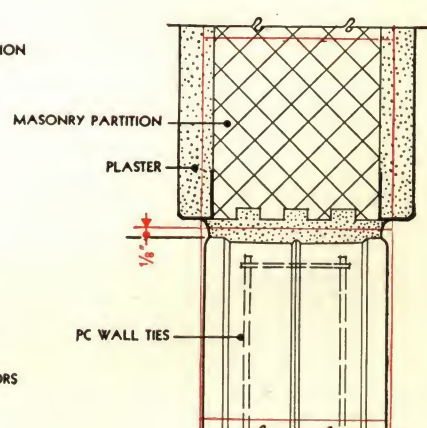
SECTION "Y"



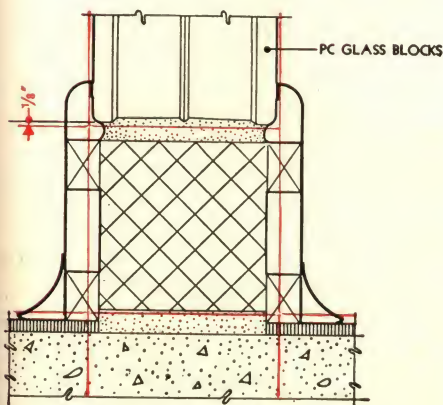
SECTION "T"



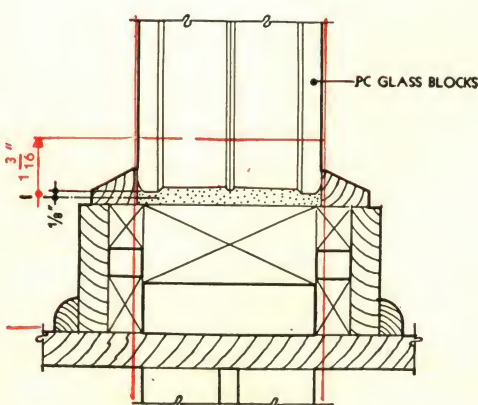
SECTION "T-1"



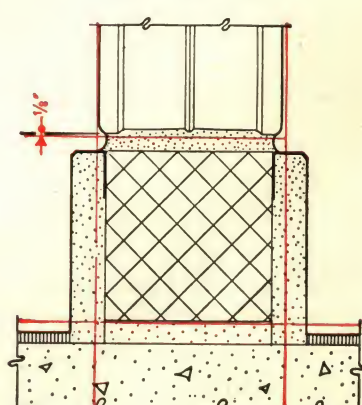
SECTION "Z"



SECTION "X"



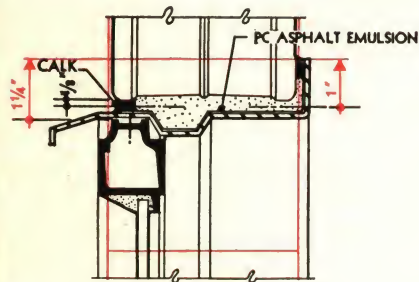
SECTION "X-1"



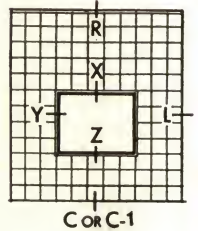
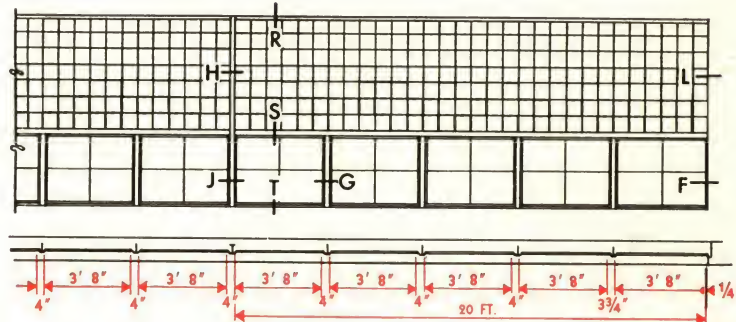
SECTION "X-2"

MODULAR INSTALLATION DETAILS — FOR SASH AND GLASS BLOCK COMBINATIONS

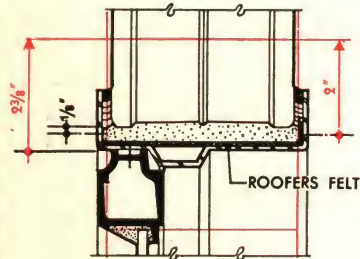
Many metal sash manufacturers offer Modular standard sash and frames for combining with Glass Block.



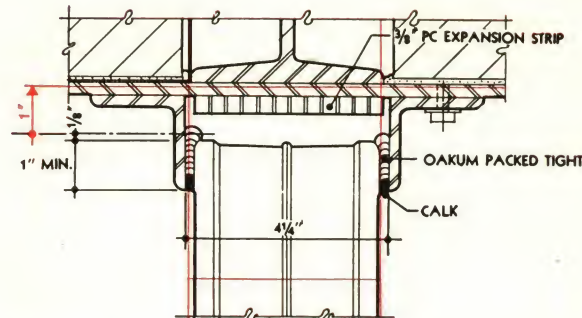
SECTION "X"



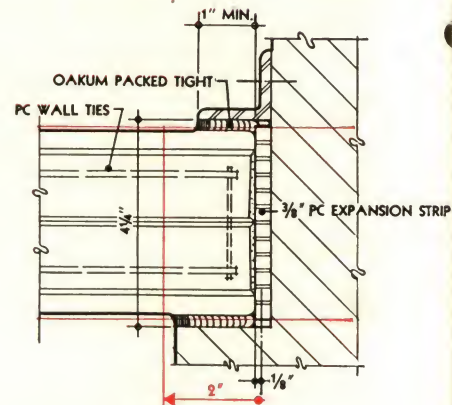
COR C-1



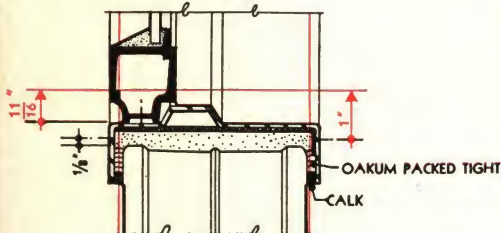
SECTION "Y"



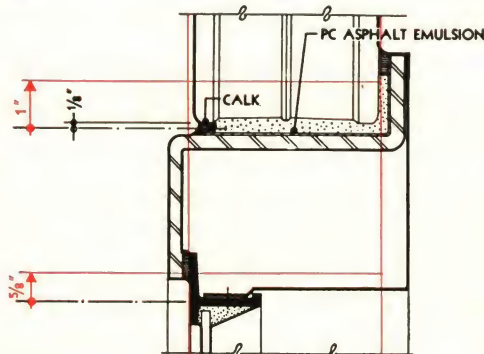
SECTION "R"



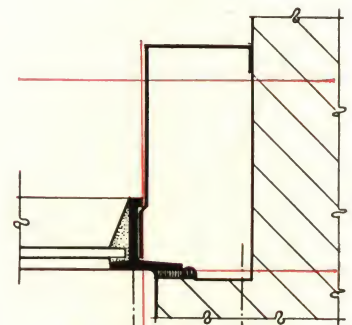
SECTION "L"



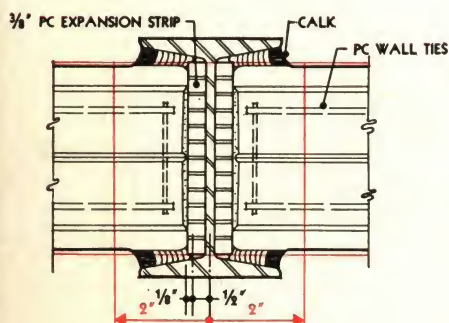
SECTION "Z"



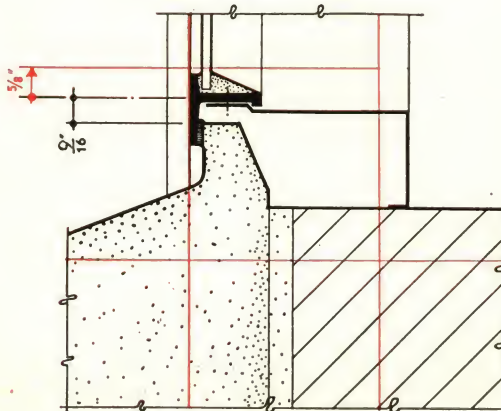
SECTION "S"



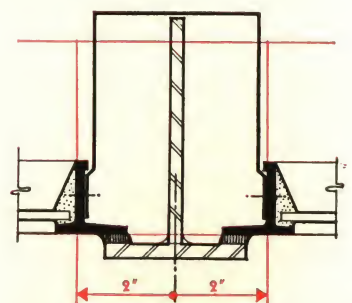
SECTION "F"



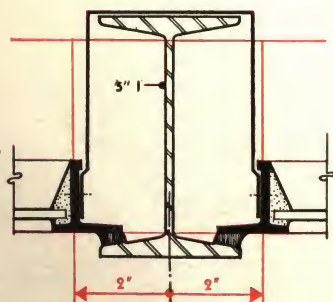
SECTION "H"



SECTION "T"

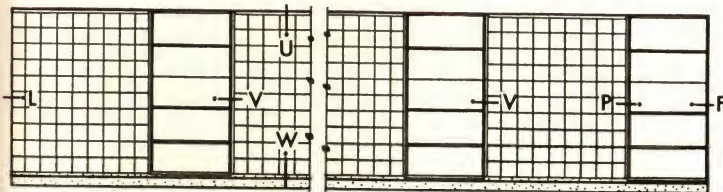


SECTION "G"

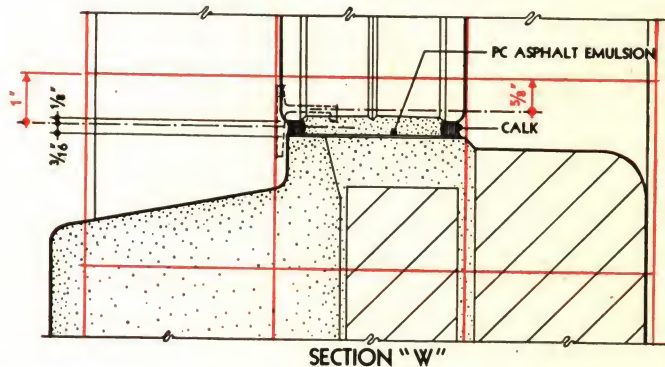
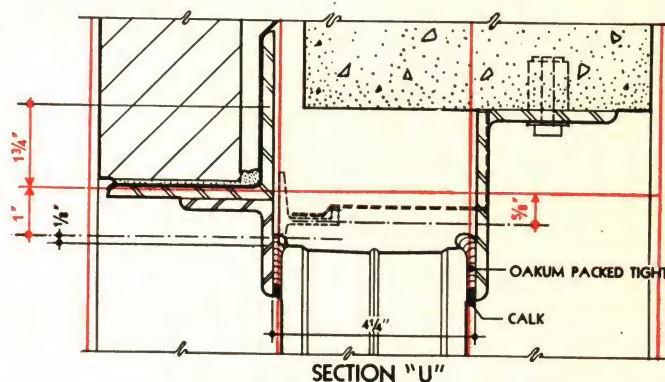
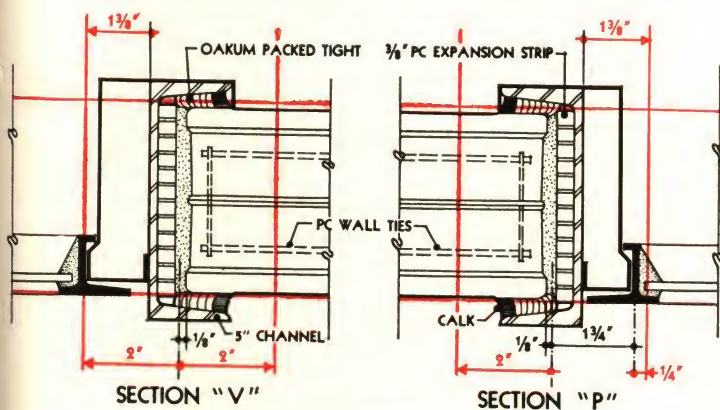


SECTION "J"

MODULAR INSTALLATION DETAILS— FOR SASH AND GLASS BLOCK COMBINATIONS

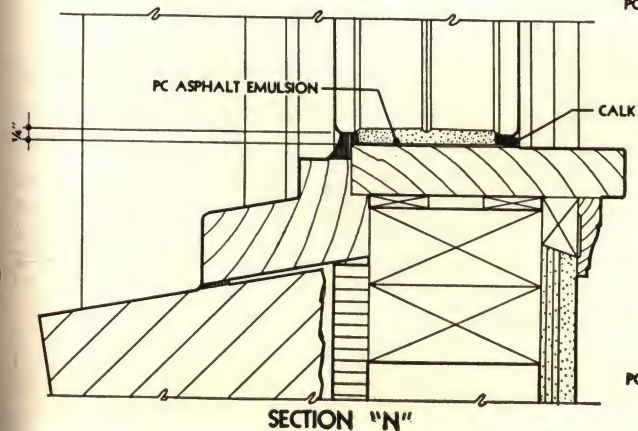
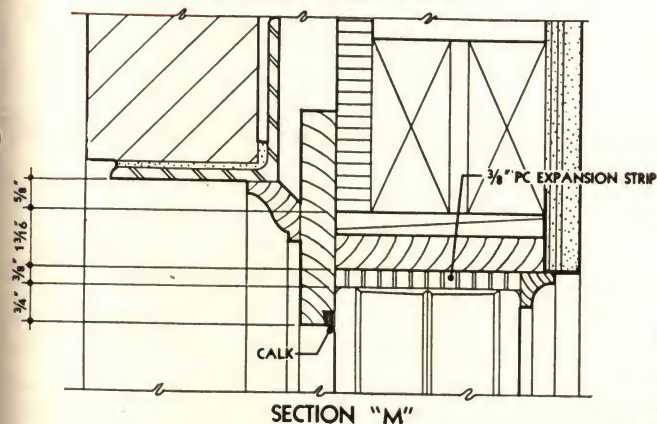


NOTE: FOR SECTIONS "L" AND "F" SEE PAGE 24

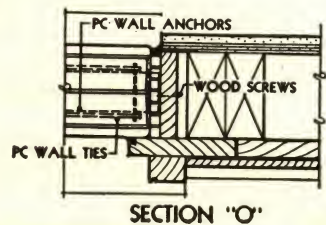
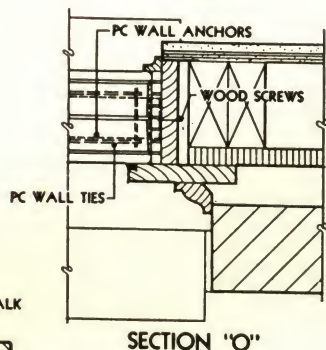
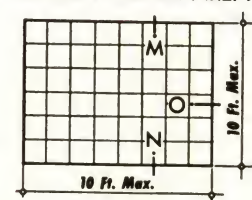


INSTALLATION DETAILS FOR RESIDENTIAL PANELS

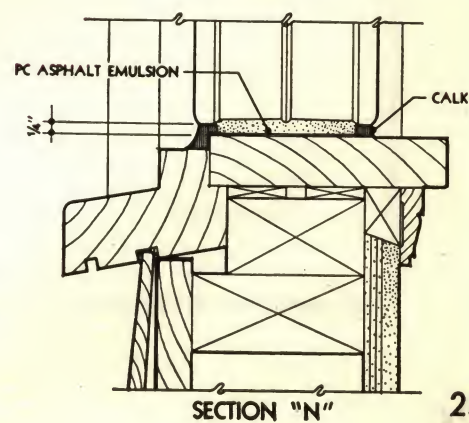
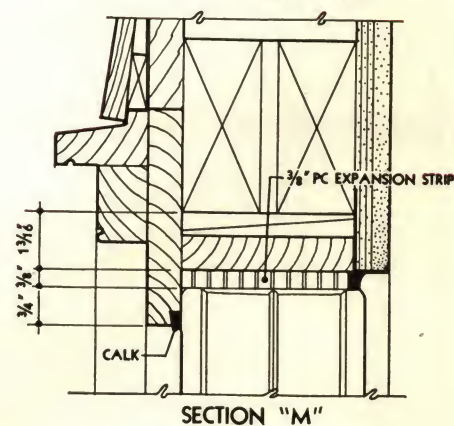
MASONRY VENEER WALLS



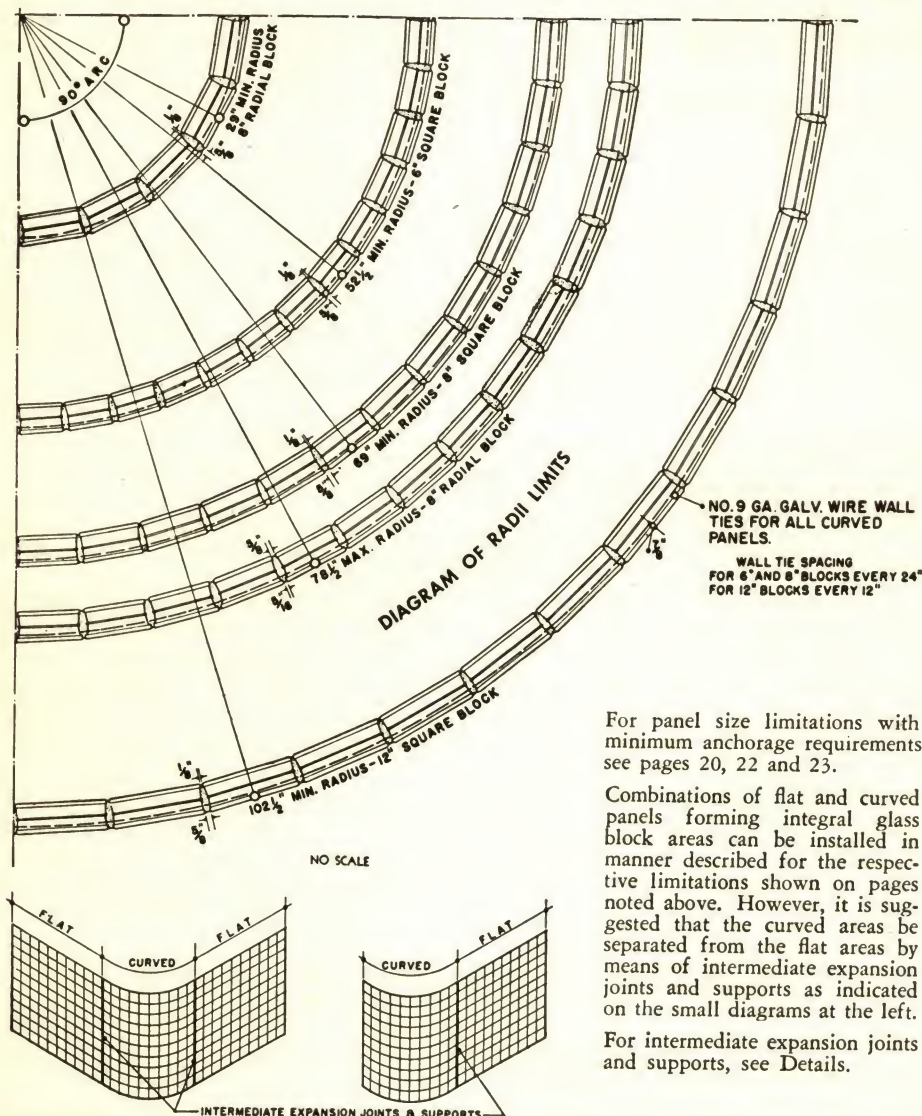
100 SQ. FT. MAX. AREA



WOOD FRAME WALLS



CURVED PANEL INSTALLATION REQUIREMENTS WITH TABLE OF RADII LIMITS



For panel size limitations with minimum anchorage requirements see pages 20, 22 and 23.

Combinations of flat and curved panels forming integral glass block areas can be installed in manner described for the respective limitations shown on pages noted above. However, it is suggested that the curved areas be separated from the flat areas by means of intermediate expansion joints and supports as indicated on the small diagrams at the left.

For intermediate expansion joints and supports, see Details.

TABLE OF RADII LIMITS FOR CURVED PANELS

Outside Radius Inches	Number of Block in 90° Circular Arc	Joint Thickness in inches		Remarks
		Inside	Outside	
6" SQUARE BLOCK				
52-1/2	13	1/8	5/8	Minimum
56-1/4	14	1/8	9/16	
56-3/4	14	3/16	5/8	
60	15	1/8	9/16	
61	15	3/16	5/8	
63-3/4	16	1/8	1/2	
65	16	1/4	5/8	
67-1/2	17	1/8	1/2	
69	17	1/4	5/8	
71-1/4	18	1/8	7/16	
73	18	5/16	5/8	

No Maximum Limitations.

8" SQUARE BLOCK				
69	13	1/8	5/8	Minimum
74	14	1/8	9/16	
74-3/4	14	3/16	5/8	
79	15	1/8	1/2	
80	15	1/4	5/8	
84	16	1/8	1/2	
85-1/4	16	1/4	5/8	

8" RADIAL BLOCK				
29	5	1/8	5/8	Minimum
34	6	1/8	3/8	
34-3/4	6	3/8	5/8	
39	7	1/8	1/4	
40-3/4	7	1/2	5/8	
44	8	1/8	1/8	
46-1/2	8	5/8	5/8	
49-1/2	9	3/16	1/8	
51-3/4	9	5/8	9/16	
55	10	1/4	1/8	
57-1/4	10	5/8	1/2	
60-1/2	11	5/16	1/8	1/8 Use Square 5/16 Block for larger radii
62-1/2	11	5/8	7/16	
66	12	3/8	1/8	
67-3/4	12	5/8	3/8	
71-1/2	13	3/8	1/8	
73-1/4	13	5/8	5/16	
76-3/4	14	7/16	1/8	
78-1/2	14	5/8	5/16	

12" SQUARE BLOCK				
102-1/2	13	1/8	5/8	Minimum

No Maximum Limitations.

NOTE: Radii given to closest quarter inch; joint thicknesses to closest sixteenth inch.

Guide No. 40 UM2.6.5. December 11, 1945 File R2556.

Pittsburgh Corning Corp., Mfr.,
632 Duquesne Way, Pittsburgh 22, Pa.

Glass Blocks.

For window openings not exceeding 120 sq ft in area, nor 12 ft in width or height, subject to light fire exposure (Class F openings).

Argus, Argus Parallel, Bristol, Druid, Decora, Essex, and Saxon PC hollow glass blocks, nominally 7-3/4 by 7-3/4 by 3-7/8 in., and Argus, Argus Parallel, Decora, and Saxon 5-3/4 by 5-3/4 in. face dimensions, 3-7/8 in. thick; laid with 1/4 in. horizontal and vertical mortar joints; mortar consisting of one part portland cement, one part hydrated lime, and four parts No. 1 screened torpedo sand by volume; each horizontal joint except between the two top rows reinforced for full length with No. 9 and 14 Bwg galvanized wire mesh; the glass block panels extending 1-1/4 in. into grooves 2-1/4 in. deep in jamb and lintel of the masonry openings, with glass or mineral wool in the remaining spaces in the grooves, to provide for expansion of the glass panels; exterior jamb and lintel edges caulked with waterproofing mastic.

Marking: Letters "PC", pattern designation, size and manufacturer's name on container.

Listed—Reexamination Service.

See description of Reexamination Service on guide card.

Authorities having jurisdiction should be consulted before installation.

This card replaces R2556 dated Jan. 2, 1941.

This card is issued by Underwriters' Laboratories, Inc.

PC GLASS BLOCKS

Listed by

Underwriters' Laboratories, Inc.

NOTE: For information regarding details of chase construction required, consult the Pittsburgh Corning Corporation, 632 Duquesne Way, Pittsburgh, Pa., or your nearest branch of the Pittsburgh Plate Glass Company.

PC GLASS BLOCKS APPROVED
BY BUILDING CODE AUTHORITIES

Building Code Authorities throughout the country have accepted and approved the use of PC Glass Blocks as a building material of adequate strength for non-load-bearing construction when installed according to the manufacturer's directions.

Note: Since publication of the above card, the 7 3/4 by 7 3/4 by 3 7/8 in. Prism Light-Directing, Reeded-Decora, Vue, Bristol LX-75 and Druid LX-75 glass blocks, and the 5 3/4 by 5 3/4 by 3 7/8 in. Reeded-Decora glass block have also been listed by Underwriters' Laboratories, Inc.

PC Glass Blocks

CLOSED SPECIFICATIONS

GENERAL CONDITIONS: The "General Conditions" of the contract are a part of these specifications.

SCOPE OF THE WORK: This contractor shall furnish all labor and materials to install all glass blocks where shown on the drawings or specified hereinunder. This shall include the furnishing and installation of all expansion joint strips, oakum packing, felts, wall ties, wall anchors, calking, asphalt emulsion, and other labor and materials necessary for a complete installation. This contract does not include the preparation of the structure to receive the glass block panels, such as chases, stiffeners, etc., except as hereinafter specified.

MATERIALS: Glass Blocks . . . shall be hollow, partially evacuated, clear, colorless glass units as manufactured by the Pittsburgh Corning Corporation. Units shall be "all glass," formed of two halves fused together at a high temperature. Edges shall be so formed as to provide a "key-lock" mortar joint. All blocks shall be coated on the edges with a grit-bearing, water-and-alkaline-resistant plastic material.

Patterns—Sizes—Shapes . . . shall be as shown on the drawings or as specified hereinunder:

(Indicate PC patterns, sizes and shapes, and locations)

Expansion Joint Materials . . . where shown or required, shall be PC Expansion Strips as furnished by Pittsburgh Corning Corporation.

Asphalt Emulsion . . . where shown or required, shall be PC Asphalt Emulsion as furnished by Pittsburgh Corning Corporation.

Wall Ties . . . shall be PC Wall Ties of steel double wire mesh formed of two parallel wires (No. 9 gage) 2 in. on centers with electrically welded cross wires (No. 14 gage) at regular intervals, and shall be galvanized. Wall ties shall be installed in horizontal mortar joints of all glass block panels as follows:

For $5\frac{3}{4}$ " size blocks—Every four courses.

For $7\frac{3}{4}$ " size blocks—Every three courses.

For $11\frac{3}{4}$ " size blocks—Every course.

Wall ties shall run continuously with ends lapped not less than 6 in. and shall run from end to end of panel. Wall ties shall not bridge expansion joints.

Wall Anchors . . . where shown on drawings shall be PC Wall Anchors as furnished by the Pittsburgh Corning Corporation and shall be No. 20 gauge perforated steel strips 24 in. long by $1\frac{3}{4}$ in. wide galvanized after perforating. All wall anchors must be crimped within expansion joints, and shall generally be placed 24 in. apart, occurring in the same joint as wall ties, and must be completely embedded in the mortar joint of the glass block panels.

Mortar . . . shall be one (1) part Portland Cement, one (1) part lime, and four (4) to six (6) parts sand, all measured by dry volumes, and *integral type waterproofer*, mixed to a consistency as stiff as will permit good working and shall be drier than for ordinary clay brickwork. For interior panels the waterproofer may be omitted. Admixtures in

the form of setting accelerators and anti-freeze compounds shall not be used.

NOTE: At the discretion of the architect or engineer, a mortar prepared from masonry cement of low volume change, incorporating metallic stearate type waterproofer, and mixed in accordance with manufacturer's recommendation may be specified as an alternate.

Cement . . . shall be Type I conforming to the Standard Specifications for Portland Cement (A.S.T.M. Designation: C150-44).

Lime . . . shall be a high-calcium type* hydrated lime or masons' hydrate conforming to the Standard Specifications for Normal Finishing Hydrated Lime (A.S.T.M. Designation: C6-46T); or a well-slaked quicklime putty conforming to the Standard Specifications for quicklime for Structural Purposes (A.S.T.M. Designation: C5-26). Hydrated lime shall be soaked at least two (2) hours, and quicklime shall be slaked not less than forty-eight (48) hours and screened prior to use in mortar. Where lime in the form of putty is used, the amount specified shall be interpreted as the actual volume of putty.

*NOTE: Hydrated lime of the magnesia or dolomitic type may be used provided that not less than 92% of all active ingredients are completely hydrated.

Sand . . . shall conform with Standard Specifications for Aggregate for Masonry Mortar, Intermediate Grading (A.S.T.M. C144-44), but shall contain particles of such size that not more than twelve (12) per cent by weight shall pass a No. 100 mesh sieve, and one hundred (100) per cent shall pass through a No. 8 mesh sieve as defined therein.

Waterproofer . . . shall be Pittsburgh Plate Glass Co. type NV-3389 (metallic stearate type). It shall be added to the mortar at the time of mixing and in the proportion recommended by the manufacturer, except where a waterproof Portland Cement or prepared masonry mortar is used. In the latter cases, no waterproofer shall be added at the time of mixing.

Oakum . . . where indicated on drawings or required for lateral cushioning of glass block panels at jambs and head chases, shall be of non-staining type treated to prevent dry rot, and shall be subject to the approval of the architect or engineer.

Calking . . . mastic calking compounds as approved by the architect shall be applied evenly and to the full depth of recess provided at both interior and exterior perimeters of all glass block panels.

FLASHINGS: Unless otherwise specified, contractor shall furnish and install in locations shown or where required, flashings as are necessary to provide a complete installation.

INSTALLATION: Sills shall be heavily coated with asphalt emulsion which shall be allowed to dry for at least two hours before mortar is placed. Expansion joint strips shall be adhered to the jambs and head with asphalt emulsion, and shall run continuously in the expansion space, and must rest directly on the sill.

All mortar joints must be completely filled with mortar and *shall not be furrowed*. Mortar must not bridge across expansion joints. Blocks shall be laid up plumb, true to line, and with one-quarter ($\frac{1}{4}$) in.* visible width mortar joints. While mortar is still plastic and before final set, the joints shall be compressed to a depth necessary to expose the corners of the blocks as sharp, clean lines, and joints shall immediately be tooled slightly concave and smooth. The number of courses of glass blocks laid in successive lifts shall be limited to prevent compaction of joints.

* Unless otherwise specified.

CLEANING: While mortar is still plastic and before final set, this contractor shall clean off all mortar and foreign material from the glass block surfaces. Final cleaning shall be done by others, after mortar has reached its final set.

PC Glass Blocks

MANUFACTURED BY:
PITTSBURGH CORNING CORPORATION
632 DUQUESNE WAY • PITTSBURGH 22, PA.
AVAILABLE THROUGH THE FOLLOWING
BRANCHES OF
PITTSBURGH PLATE GLASS COMPANY

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ANN ARBOR, MICH.
ATLANTA 1, GA.
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AURORA, ILL.
AUSTIN, TEXAS
BALTIMORE 1, MD.
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BUFFALO 2, N. Y.
BURLINGTON, VT.
BUTTE, MONT.
CHARLESTON, S. C.
CHARLOTTE 1, N. C.
CHICAGO 11, ILL.
CINCINNATI 2, OHIO
CLEVELAND 14, OHIO
COLUMBIA 3, S. C.
COLUMBUS 1, OHIO
CORPUS CHRISTI, TEXAS
DALLAS 2, TEXAS
DANVILLE, ILL.
DAVENPORT, IOWA
DECATUR 21, ILL.
DENVER 1, COLO.
DES MOINES 6, IOWA
DETROIT 2, MICH.
DUBUQUE, IOWA
DULUTH 2, MINN.
DURHAM, N. C.

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EL PASO, TEXAS
ERIE, PA.
FINDLAY, OHIO
FORT DODGE, IOWA
FORT WORTH 1, TEXAS
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HIGH POINT, N. C.
HOMESTEAD, PA.
HOUSTON 1, TEXAS
INDIANAPOLIS 6, IND.
IOWA CITY, IOWA
JACKSON, MICH.
JACKSONVILLE 3, FLA.
JEANNETTE, PA.
JOPLIN, MO.
KALAMAZOO, MICH.
KANSAS CITY 6, MO.
KITTANNING, PA.
KNOXVILLE 12, TENN.
LACROSSE, WIS.
LAFAYETTE, IND.
LANCASTER, PA.
LEXINGTON, KY.
LIMA, OHIO
LINCOLN 1, NEBR.
LITTLE ROCK, ARK.
LOUISVILLE 1, KY.

LYNCHBURG, VA.
MACON, GA.
MADISON 3, WIS.
MANCHESTER, N. H.
MANSFIELD, OHIO
MARIETTA, OHIO
MASON CITY, IOWA
McKEESPORT, PA.
MEMPHIS 1, TENN.
MIAMI 31, FLA.
MILWAUKEE 1, WIS.
MINEOLA, N. Y.
MINNEAPOLIS 15, MINN.
MOBILE 1, ALA.
MONTGOMERY 3, ALA.
MT. VERNON, N. Y.
MUSKEGON 4, MICH.
NASHVILLE 2, TENN.
NEWARK 8, N. J.
NEW CASTLE, PA.
NEW HAVEN 13, CONN.
NEW ORLEANS 1, LA.
NEW YORK (Brooklyn 1),
N. Y.
OKLAHOMA CITY 2, OKLA.
OMAHA 1, NEBR.
OSHKOSH, WIS.
PADUCAH, KY.
PARKERSBURG, W. VA.
PEORIA 2, ILL.
PHILADELPHIA 32, PA.
PITTSBURGH 22, PA.
PORTSMOUTH, OHIO
PROVIDENCE 1, R. I.
RACINE, WIS.
READING, PA.
RICHMOND 8, VA.

ROANOKE 5, VA.
ROCHESTER 8, N. Y.
ROCKFORD, ILL.
SAGINAW, MICH.
ST. JOSEPH 7, MO.
ST. LOUIS 10, MO.
ST. PAUL 1, MINN.
SALINA, KAN.
SAN ANTONIO 6, TEXAS
SAVANNAH, GA.
SCRANTON 9, PA.
SHREVEPORT 90, LA.
SIOUX FALLS, S. DAK.
SOUTH BEND 24, IND.
SPRINGFIELD, ILL.
SPRINGFIELD 5, MASS.
SPRINGFIELD, MO.
SPRINGFIELD, OHIO
SYRACUSE 1, N. Y.
TALLAHASSEE, FLA.
TAMPA 1, FLA.
TERRE HAUTE, IND.
TIFFIN, OHIO
TOLEDO 6, OHIO
TOPEKA, KAN.
TRENTON 8, N. J.
TULSA 1, OKLA.
UTICA 3, N. Y.
WASHINGTON 2, D. C.
WASHINGTON, PA.
WICHITA 1, KAN.
WILKES-BARRE, PA.
WILMINGTON 17, DEL.
WORCESTER, MASS.
YOUNGSTOWN 3, OHIO
ZANESVILLE, OHIO

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